Engineering Issue

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April 15, 1968

RAILWAY AGE

THE TRANSPORTATION WEEKLY

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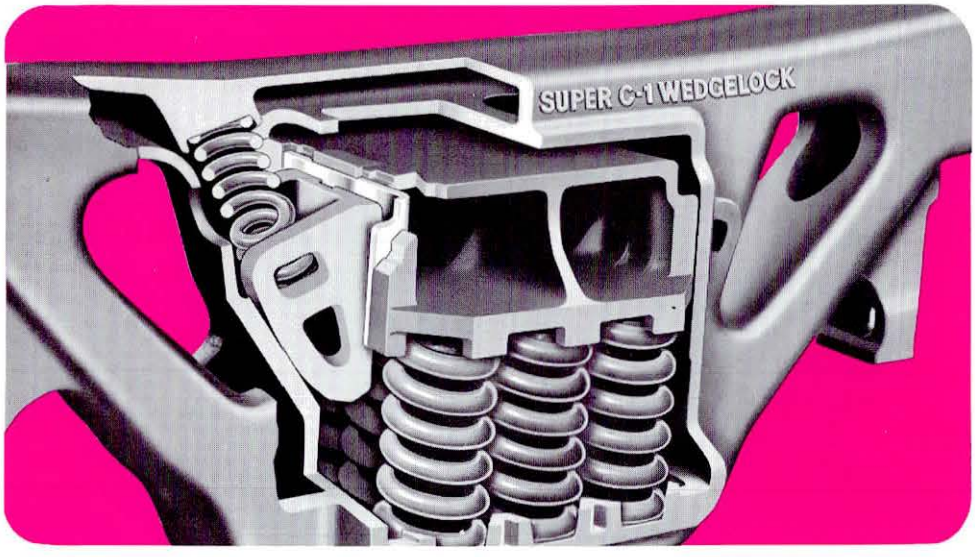

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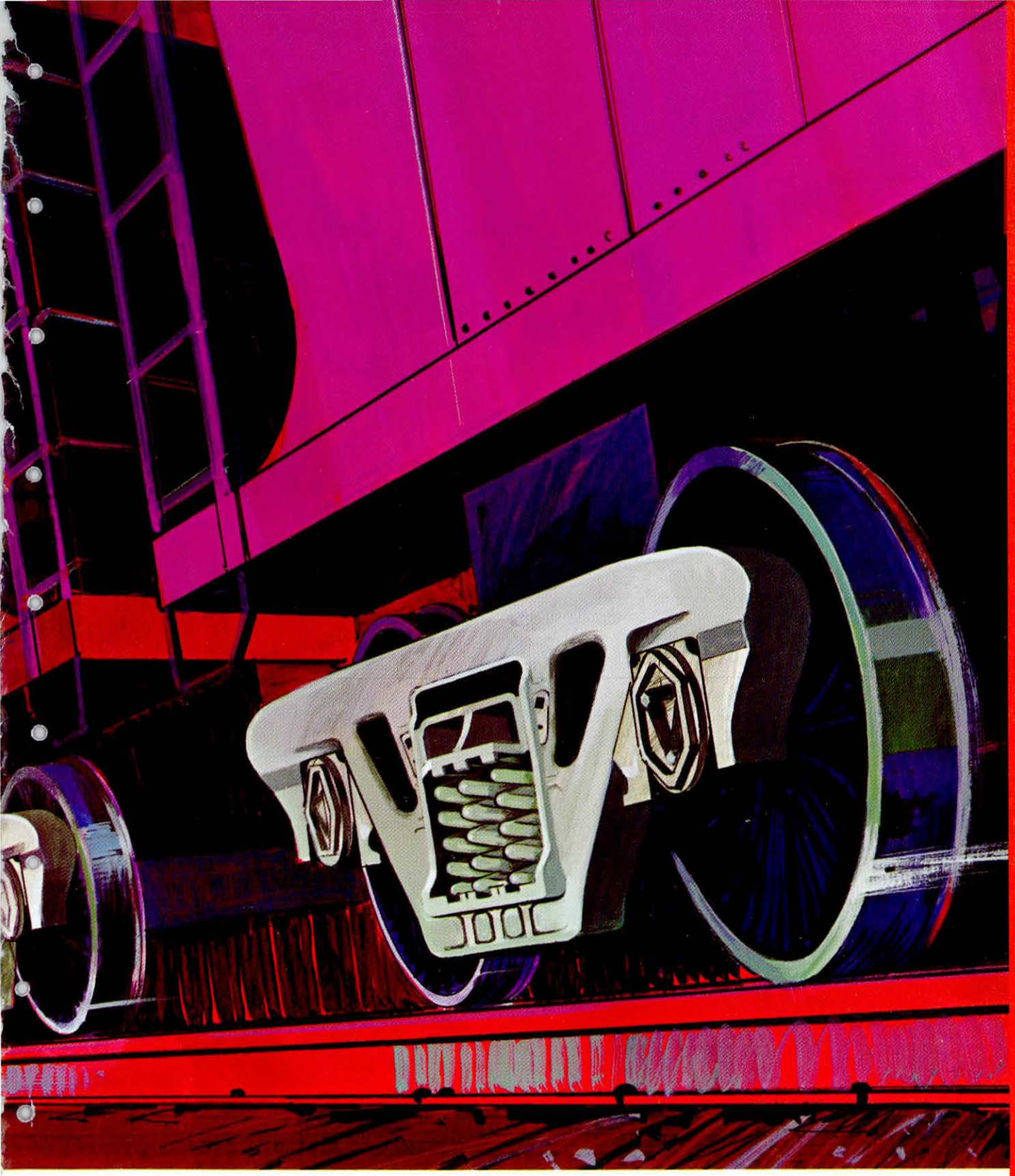

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RAILWAY AGE

April 15, 1968 • Vol. 164, No. 14

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. . . AND COMING NEXT WEEK

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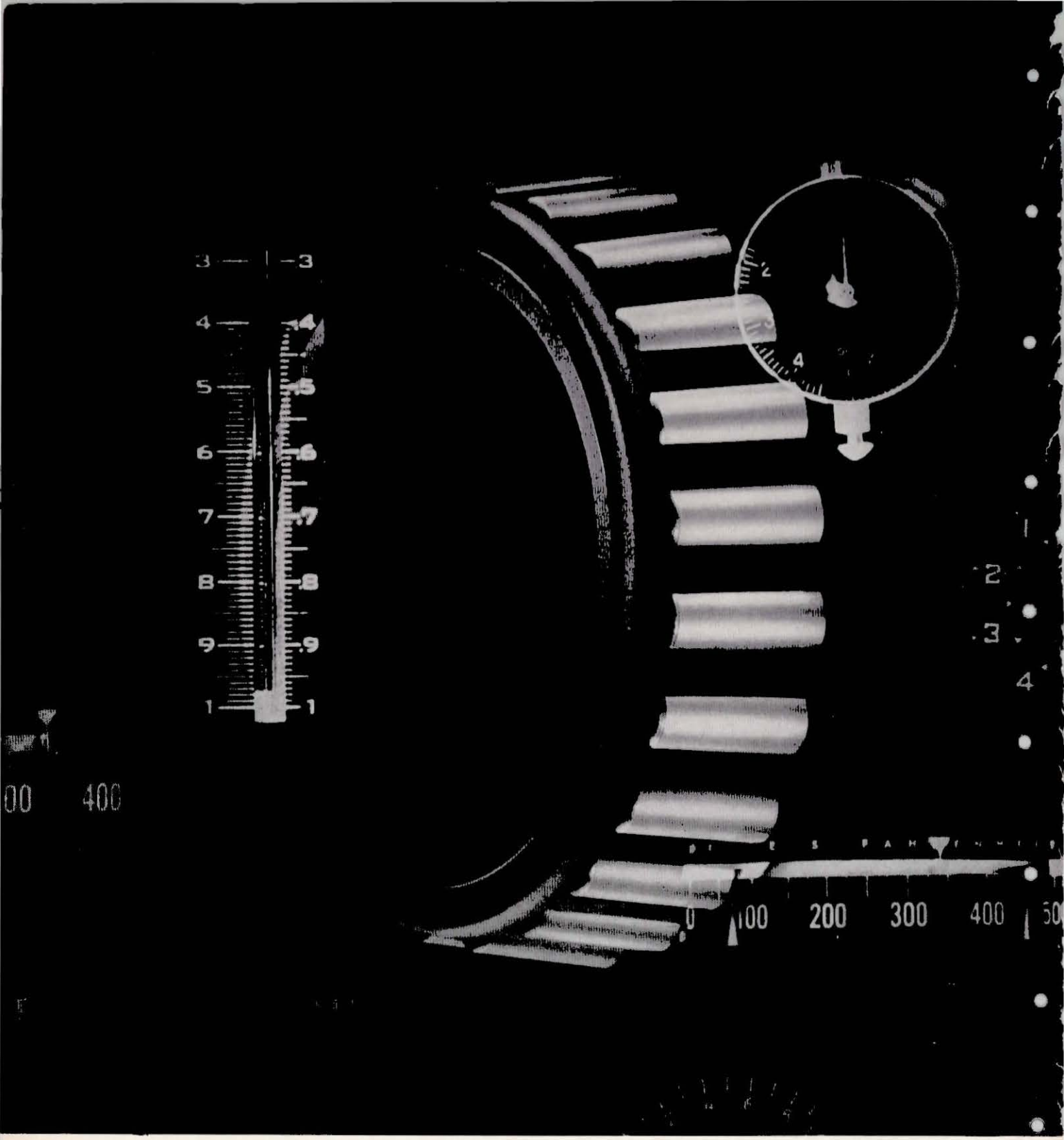

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SHORT AND SIGNIFICANT

Merger with IC wins approval of GM&O voters

Gulf, Mobile & Ohio stockholders voted in favor of merger with Illinois Central during GM&O's annual meeting in Mobile last week, with 81.7% of GM&O's 1,033,305 common and preferred shares cast for merger. "The merger is our most promising single step for the future," said Glen P. Brock, GM&O president. IC shareholders will vote May 15.

New Jersey will lease locomotives for Jersey Central

The State of New Jersey's Commuter Operating Agency has instructed Transportation Commissioner David J. Goldberg to acquire six locomotives as an "emergency measure" to improve passenger service on the bankrupt Jersey Central. A spokesman said the locomotives will be leased to CNJ by the Norfolk & Western and the Chesapeake & Ohio, with the Department of Transportation footing the bill. He added that "negotiations for new locomotives and other passenger equipment are now in process with N&W and C&O." (Jersey Central would be a Dereco-plan subsidiary of N&W-C&O under their current merger proposal.)

Big steam: And then there was 1 . . .

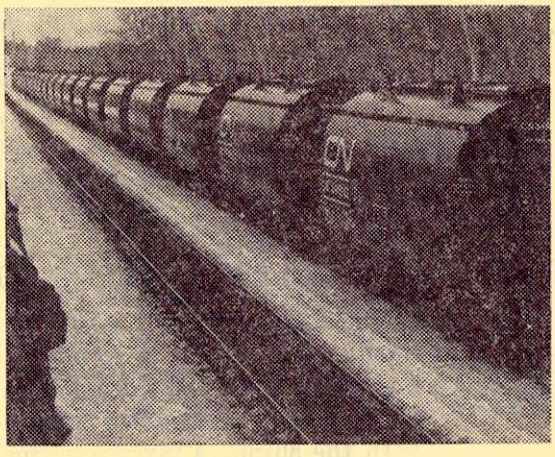
Union Pacific, a unique property in many ways, now qualifies on one more count: It's the possessor of the last remaining serviceable steam locomotive on the Class I railroad list. Oil-fired 4-8-4 No. 8444 isn't ready for retirement quite yet. It is tentatively scheduled for at least three railfan runs this summer along UP lines in the Denver-Rawlins-Green River-Cheyenne area. Last year, No. 8444 was one of a trio—but retirement of two Reading locomotives left it as the sole survivor of an era.

German Railroad takes a big intermodal step

West Germany's first all-container train—the "Dolphin"—has just gone into service between the seaports of Bremen and Hamburg and inland container terminals at Frankfurt, Mannheim and Ludwigsburg (near Stuttgart). The German Federal Railroad describes this as "the first step of a massive engagement in intermodal transportation." When container traffic is too heavy for the "Dolphin," additional express freight trains will be made available.

Southern names yard for former president

The Southern's huge electronically-controlled classification yard at Chattanooga, Tenn., has been named the Harry deButts Yard, honoring the road's president in the 1950s and early '60s. The yard was formerly called Citico Yard. Southern President W. Graham Claytor, Jr., presided at ceremonies marking the dedication.



New unit ore train begins runs in Canada

Canada's first from-drawing-board-to-rail predesigned unit train (photo) has been placed in service hauling iron pellets from a mine to blast furnaces in Hamilton, Ont. The stubby cars, made up into three 35-car train sets, are running on 72-hour cycles between an automatic loading dock at the still-unfinished Sherman mine near Tegagami and Dominion Foundries & Steel, Ltd., in Hamilton, a distance of 340 miles. The cars have special hatches that open and close automatically during loading, and load-adjusting brakes. Canadian National and the Ontario Northland Transportation Commission purchased the cars for the operation.

MONDAY MORNING REPORT

NEEDED: STRAIGHT THINKING ON L&D

As Railway Age reported March 25, there is a shift of attack under way in L&D prevention—a shift of emphasis from in-motion-time to loading-time. As RA also reported, one of the attack's leaders is Otto H. Zimmerman, Illinois Central vice president and general manager. Zimmerman has a regrouped task force to deploy. He also has some gripes about elements he says are warping the rail industry's L&D-prevention campaign and the first element is false knowledge.

1967 PAYOUT: MORE THAN REPORTED

A second element follows the first one: slippery statistics. Take the AAR payout figure for 1967, for example. "I think the cost of L&D to the industry is a lot more than $180 million," Zimmerman says. Using IC as an example, he points out that the company's payout of $5.5 million last year did not include such items as repair costs for equipment or facilities damaged in derailments, the salaries of claim people and L&D prevention personnel, the cost of salvage operations and necessary facilities, or the cost of double-handling of loads and cost of returned shipments refused by customers. Nor did it cover dollar figures on company-income "damage" done by shipper reaction to railroad failure to perform.

SOLUTION NEEDED TO STOP TRAFFIC LOSS

The solution definitely is not to kick a switchman nor to pour additional millions into prevention hardware, though the latter effort is important. At least the hardware can help make shippers stay with the railroads though its cost may be a straight trade-off in dollars with the shippers involved. The solution goes beyond this. If it does not, the only alternative is loss of traffic. And Zimmerman warns rail men that "all the disadvantageous results that come from less-than-perfect handling of shipments are going to explode in a time of cost-push inflation." Commodities are worth more, and claims are higher. This affects rails in two ways. First, the impact of the wage spiral hits rails a lot harder than barges and pipe lines, and if rails can't afford to upgrade, shippers will seek lower-cost transportation. Second, in their search for better service, shippers seek the higher cost modes, and rails' advantage over trucks—because of the wage spiral's greater effect on highway carriers—is lost.

THE SOLUTION: PREVENT CONVENTION

From false knowledge based on slippery statistics, the route to distorted decisions is short and direct. "And these wrong decisions may be the biggest problem of all—because there are men whose careers are deeply entwined in the industry's conventional answers," Zimmerman charges.

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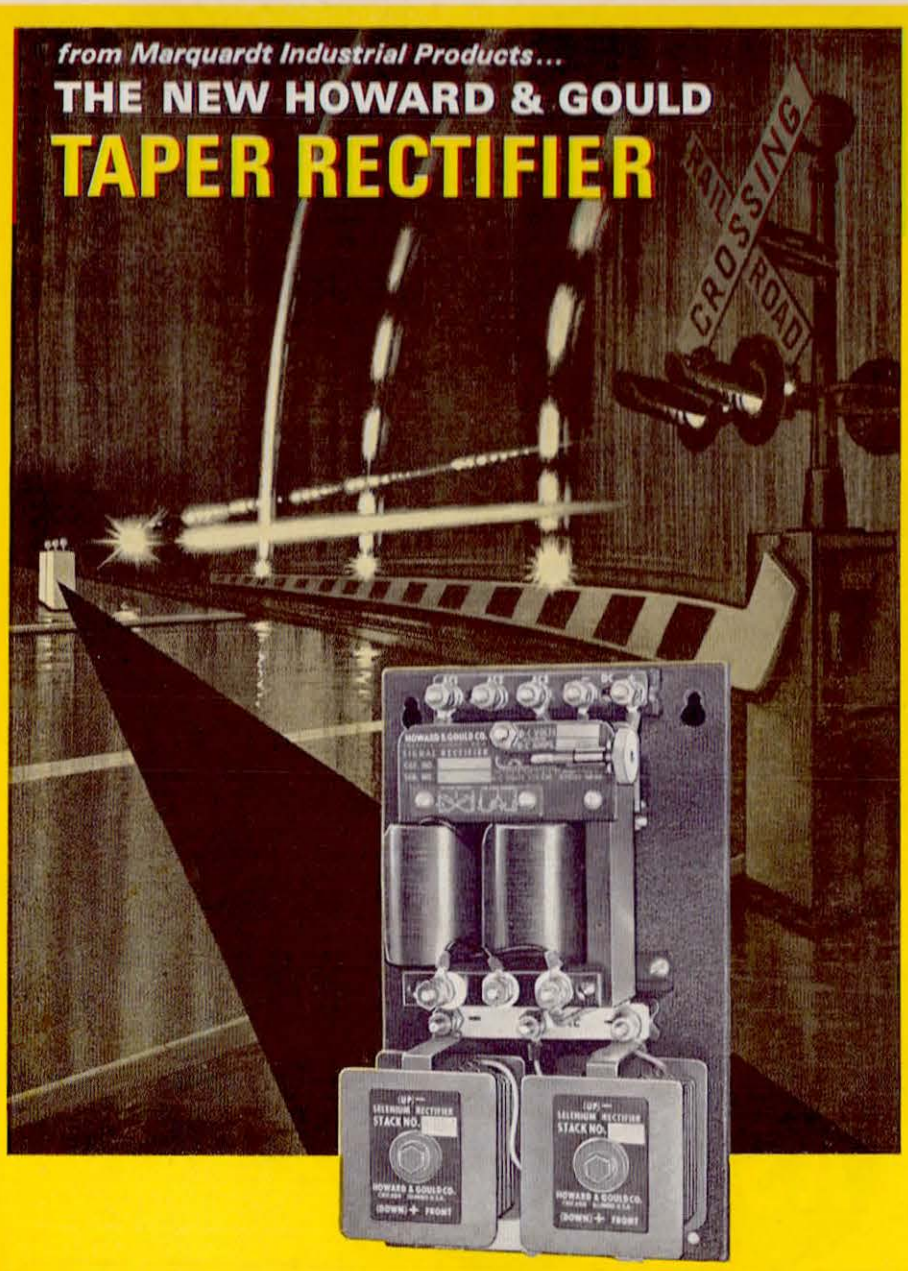

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THE TRANSPORTATION WEEKLY
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WEEK AT A GLANCE

CP earmarks $66.8 million for improvements

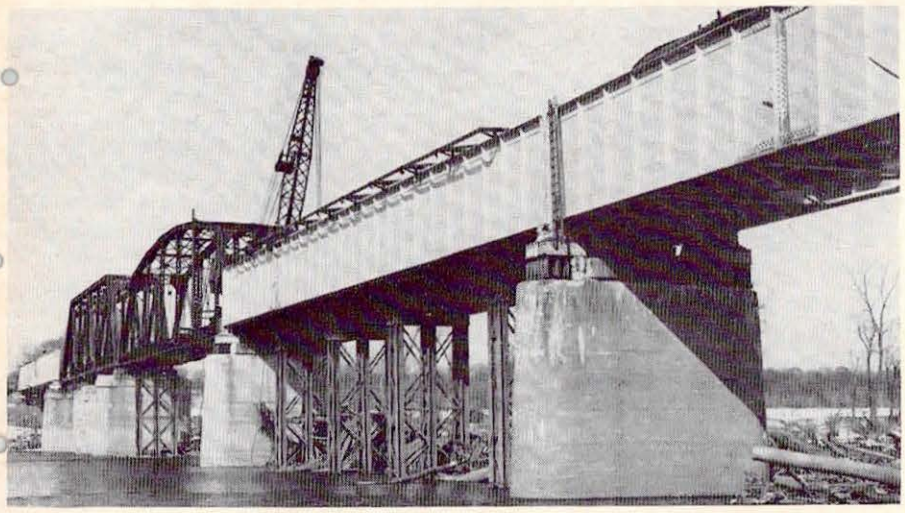
Canadian Pacific will invest $66.8 million on new equipment and facilities during 1968, Chairman N. R. Crump disclosed last week. The capital program includes $26.9 million for new locomotives, freight cars and work equipment, and $28.8 million for track improvements.

In addition to the railway spending program, CP will invest $16.6 million in its telecommunications and other properties this year.

Said Crump: "The high level of capital improvements represents a continuing drive to sharpen rail services and increase freight volume in the face of intense competition."

Railway capital expenditures in the last three years totaled $298.9 million, said CP's chairman.

CP's big 1968 investment will be made in the face of declining earnings: In 1967, net railway income amounted to $39.6 million, down $10.6 million from 1966.



Huskier bridges for heftier trains

The increasing demand by shippers for heavier loads and heavier cars required Chesapeake & Ohio/Baltimore & Ohio to rebuild or replace $1 million worth of bridges over 425 miles of line in Indiana and Illinois.

In the photo, the last link in the million-dollar improvement project—a massive girder—is lifted into place on a bridge spanning the Wabash River at Montezuma, Ind.

Completion of the program will permit the roads to handle car loads of at least 100 tons over 95% of the 6,000-mile, 13-state system. Thirty-nine bridges were upgraded.

Safety Board cites "worsening" accident rate

The National Transportation Safety Board has called upon the Federal Railroad Administrator, A. Scheffer Lang, to apply all resources at his disposal to an undertaking to reverse the trend of railroad accidents. Recognizing, as it said, that there are limits to Lang's resources and authority in this area, the board also recommended that consideration be given to legislation extending such authority.

These proposals were made to Lang in a letter from NTSB Chairman Joseph J. O'Connell. Though a unit of the Department of Transportation, NTSB is nevertheless autonomous, having plenary power to investigate all transportation accidents. O'Connell's letter said the board's studies of train accidents show "progressively worsening trends in rates, occurrences, deaths and damage."

The letter added: "Furthermore, and especially disturbing, many train accidents in recent years have involved hazardous or poisonous materials, resulting in fires or the escape of poisonous or hazardous materials followed by evacuation of populated areas."

It characterized the present railroad accident situation as "extremely serious" and recommended that Lang initiate studies with particular attention to derailments, the level of maintenance, and the influence of operating rules on accident causation.

There was no immediate comment from FRA. However, actions already taken there reflect a concern about the situation. These have included the reorganization of the inspection and investigation unit, expanded training for inspectors, and study of investigation techniques. FRA has also been looking into areas where it might be desirable to seek legislation giving it additional authority.

GUS WELTY

LINES ON LABOR

JUDAS MONEY must have seemed an appropriate phrase, especially with Good Friday and Easter coming up. After all, doesn't it represent a 30-pieces-of-silver attitude when good union members fatten their own wallets at the expense of their brethren? Isn't it betrayal, when men put money above principle and permit themselves to be bought off?

MAYBE SUCH ACTION would be betrayal, a despicable thing, and so forth. But what's that got to do with the current offer of four railroads to pay more money to men who work on crews of a certain size? The Brotherhood of Railroad Trainmen calls it Judas money. Railroad men ask their people what seems to be a reasonable question: Who's being betrayed and how?

RAILROAD REASONING runs like this: Fellow employees "would not be hurt. No one would lose his job. No one would be worse off." Employees' families would not be hurt, because "how could you possibly betray your family by increasing substantially the income provided for their care?" The company certainly wouldn't be hurt, because the settlement terms offered by the union would cost more. Finally, the union would not be betrayed, "because your union exists to serve your best interests. It's strong as it serves you, it's weak as it doesn't."

EVERY PIECE OF SILVER has two sides. Management people are looking at the flip side: "It could be argued that if you, through your union, should decline the offer and insist on re-creating unneeded positions, you would be taking a Judas action—that you would be betraying your fellow employees, your family, your union and your company. Would you not be betraying your fellow employees by depriving them of a share in productivity gains and by causing the company to lay off present employees in needed jobs to make up for having to hire new employees in unneeded jobs . . . your family by depriving it of increased income . . . your company by limiting its ability to compete effectively and grow . . . your union by causing it to act against your own interests and those of your family, your fellow employees and your company?"

IT'S UNFORTUNATE, though perhaps inevitable, that disputes between presumably reasonable men and organizations should wind up as contests in phase-making. As it was before, so it is now.

N&W, Chessie hearings wind up

After 76 days (and 10,299 pages) of testimony, the ICC has completed hearings on the proposed merger of the Norfolk & Western and the Chesapeake & Ohio. When the hearings opened, on April 17, 1967, some 200 railroad officers, lawyers and spectators were crowded into the Commission's Hearing Room A. When the end came, at 2:25 p.m. on April 4, there were 31 survivors—mostly lawyers. N&W-C&O's central argument has been that a second railroad system in the East (their own lines with the so-called Dereco lines as a subsidiary) is necessary to maintain a competitive balance with the Penn Central.

Will prosperity be contagious?

The Erie Lackawanna, plagued by deficits at every turn, took what it hopes will be a turn for the better on April 1, becoming part of the affluent Norfolk & Western system. Now just two weeks old, the new Erie Lackawanna Railway, a subsidiary of Dereco, Inc., which in turn is a subsidiary of the N&W, can't help but feel that being in a winner's company will put an end to years like 1967 when it lost $10 million.

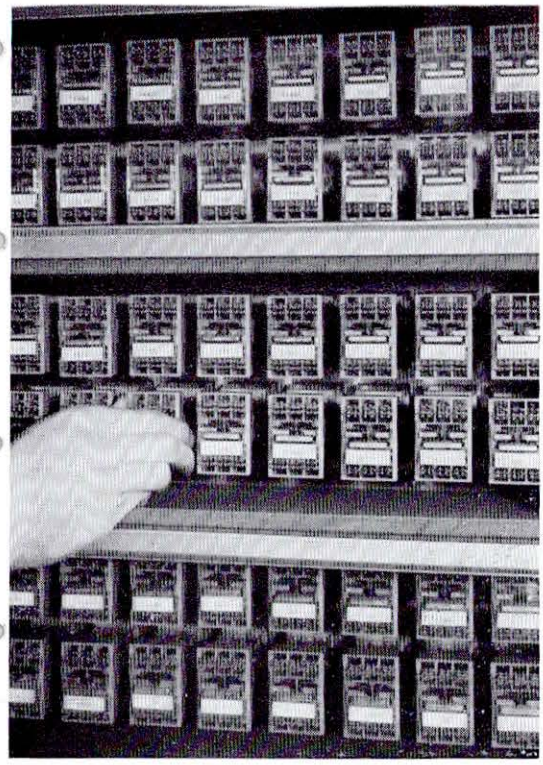
Much of E-L's future success will depend on the care and feeding administered by its new N&W parent. To be sure E-L gets the proper attention, N&W dispatched from Roanoke its smoothly efficient, merger-savvy senior vice president John P. Fishwick to run the 3,000-mile E-L operation from Cleveland. Fishwick will keep his N&W title while functioning as chairman and chief executive officer of the reorganized Erie. In addition, he is president of Dereco.

Will remaining an N&W officer, in addition to assuming the two E-L posts result in a conflict? No, said Fishwick.

"It's going to be my sole objective on the Erie to give N&W something to catch up to. I won't in any way be competing with myself."

With E-L now in the Dereco operation, N&W is expected to turn its attention to the Delaware & Hudson, Reading, Boston & Maine and Central of New Jersey—the other proposed members of the merged system.

"It's my hope," said Fishwick, "that Dereco will enable us to better coordinate the various railroads. Until we get more than one Dereco line we don't really have much for Dereco to do. So far, I suppose I'm the only employee."



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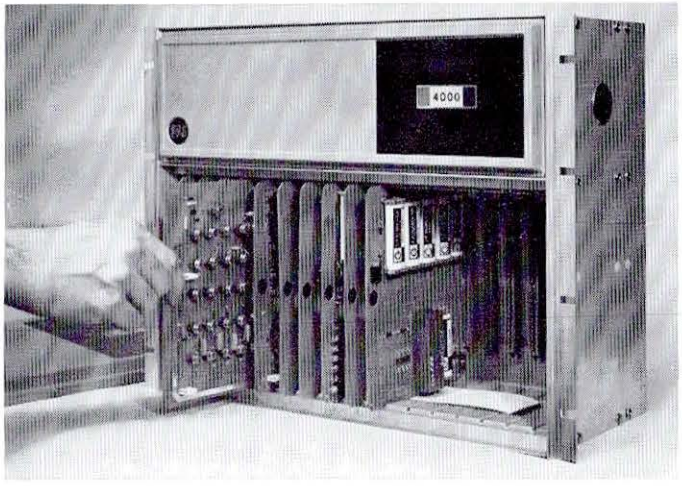

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What rails can do for the investor

At American University's 8th annual Conference on Business-Government Relations, the topic assigned to Western Maryland President W. Arthur Grotz was: "Opportunities for Private Enterprise in Railroad Transportation." Ex-Wall Streeter Grotz made it clear that the opportunities are still great.

He listed four broad areas which he thinks private investors should be exploring:

1. "Ownership of transportation properties and/or equipment. . . . Ownership or control of real estate benefits from the rise of land values and may open exciting possibilities of profit from industrial or housing development or sale or lease of air rights. . . . Ownership of railroad equipment is a large and profitable investment field."

2. "Operations of railroad properties, however difficult labor and competitive problems may be, are basically profitable. They offer opportunities for greater profits through mergers and coordination, grade crossing eliminations by government, systems approaches, customer oriented marketing and new concepts like 'Landbridge,' in which containers between Europe and the Orient would be transferred from ship to train and back to ship at lower costs than via the Panama Canal. Moreover, in the field of operations, opportunities for private management of publicly constructed urban and suburban rapid transit should develop in the future."

3. "Manufacturing for railroads of billions of dollars of everything from steel rails and hopper cars to microwave systems is a broad field of opportunity, despite wide fluctuations in demand."

4. "Services for transportation are too varied to enumerate, ranging from advertising to wheel grinding, and including management consultants, insurance and banking. The market is so vast and the customers are so important that concerns offering services often find it advantageous to employ railroad specialists."

Grotz concluded by quoting a recent statement by AAR President Thomas M. Goodfellow: "Railroads are breaking through barriers not only in technology but also in customer services, pricing, merchandising and managerial approaches. They're getting set as never before to serve America's expanding transport needs." ■

WALTER TAFT

WATCHING WASHINGTON

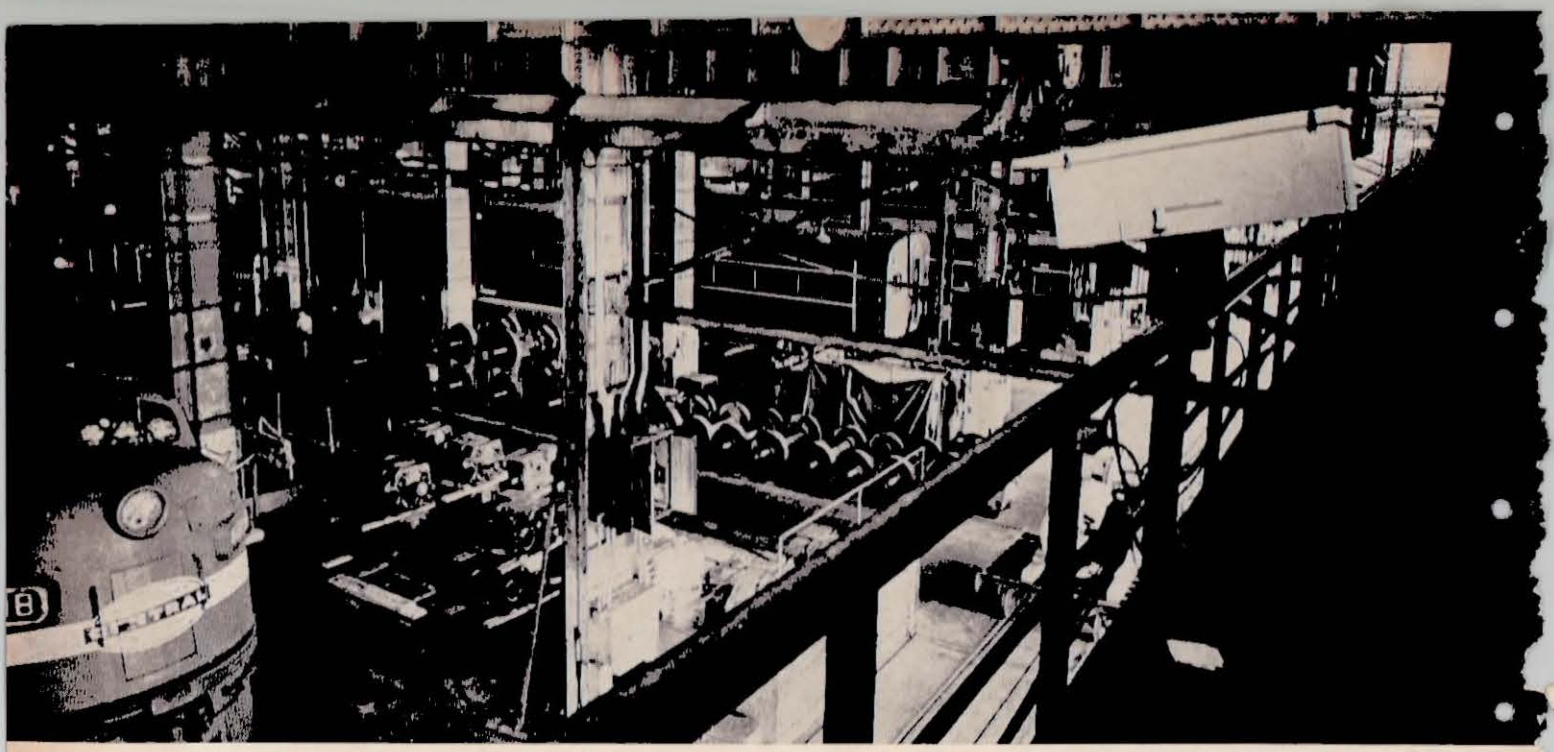
ICC CHAIRMANSHIP—The idea of having a Presidentially-appointed chairman of the Interstate Commerce Commission has been coming to the fore again recently. In this respect, the Commission is now alone among regulatory agencies. All others have chairmen appointed by the President. The ICC still elects its own, rotating the job annually. Commissioner Paul J. Tierney is the 1968 chairman. The vice chairman who is next up under the rotation plan is Commissioner Virginia Mae Brown.

FAVORED BY LBJ—President Johnson favors bringing the Commission situation into line, but he was not disposed to make an all-out drive for the change when it was opposed generally by interested parties. Now, however, there would be no opposition from carriers regulated by the Commission. That includes the railroads, the Association of American Railroads having reversed its previous opposition position late last year. There is still some opposition, though, notably that of the National Industrial Traffic League.

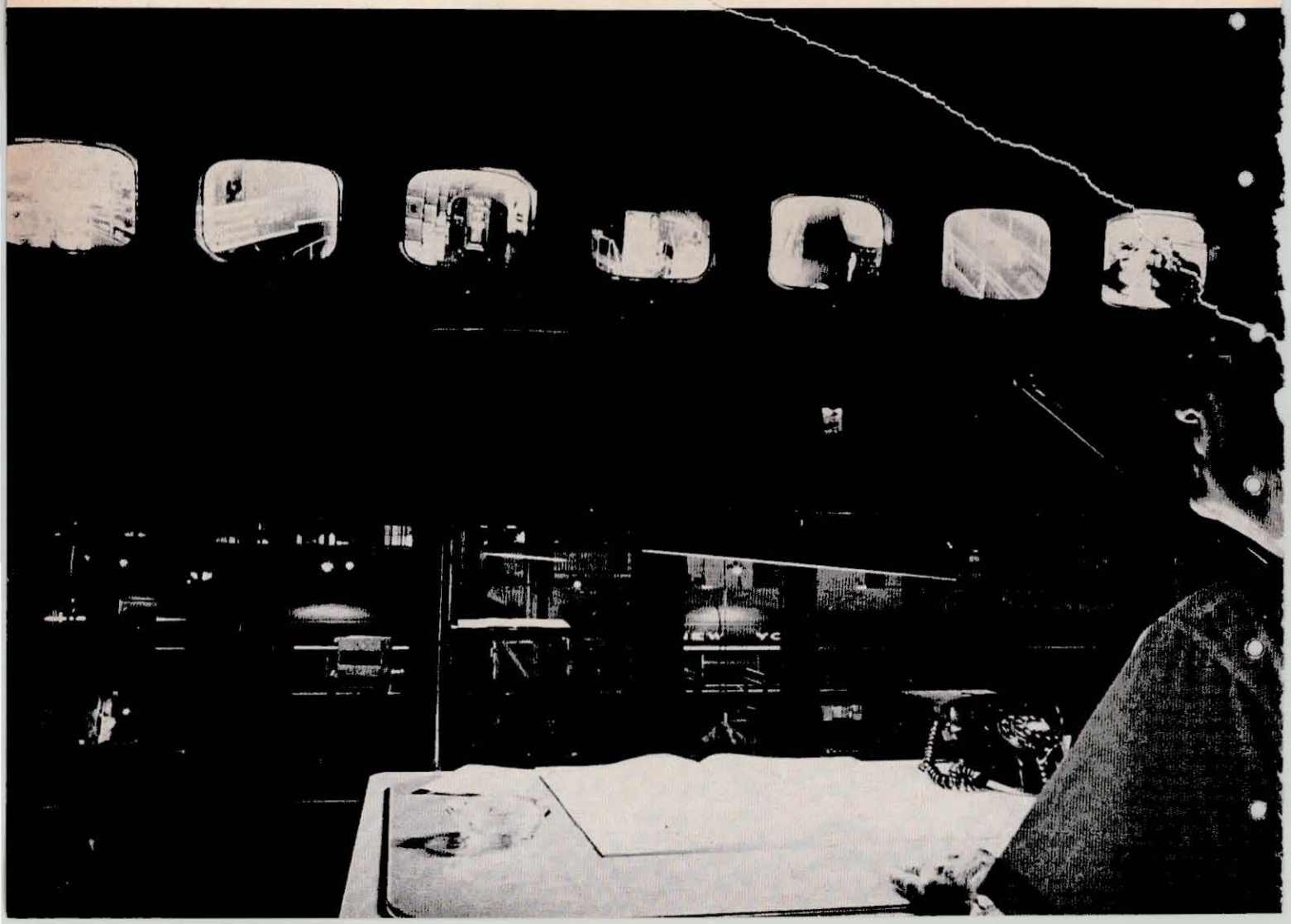
PROSPECTIVE PROCEDURE—If the Administration decides to seek Congressional clearance, it is apt to embody its proposal in a government reorganization plan, rather than in an amendment to the Interstate Commerce Act. Under the former procedure, a revamp would become effective unless disapproved by Congress within 60 days. So the burden of getting Congressional action would be on the opponents. And, as the late President Kennedy put it, "it's very easy to defeat a bill, it's much more difficult to pass one."

COMMISSION VACANCIES—With two vacancies on the Commission, the President would not be confined to the present membership in choosing a chairman. He could give the job to a new appointee. The vacancies were created by the recent death of Grant E. Syphers and the expiration of William H. Tucker's term at the end of last year.

TUGGLE WOULD STAY—The only commissioner whose term expires at the end of this year is Kenneth H. Tuggle. He is seeking reappointment. Tuggle has served longer than any of his colleagues. An appointee of former President Eisenhower, he took his oath of office Sept. 8, 1953. Reappointments came from Eisenhower in 1955, and from Kennedy in 1962.



Closed circuit TV can put you in the



CHECKING UP — Television camera (left) provides diesel and electric shop foreman (below) with view of shop areas. This enables him to see how work is progressing on various kinds of equipment that are in for inspection and repair.

picture

By ROBERT W. McKNIGHT,
Signaling and Communications Editor

With television, you are there. With television plus videotape, you can be there again and again. And that's why railroad men in a variety of jobs are getting more acquainted with such things as pan controls, zoom lenses and taped replays.

The most common current use of closed-circuit television in railroading is in classification yards—for checking car initial and number of inbound and outbound train movements. About 20 major yards have been equipped with such systems—with both economic and operational benefits. Use of television tended to provide a relatively fast return on investment, through personnel savings. A single clerk, using TV cameras and monitors, could check several locations. Also, with use of videotape recorders, simultaneous checking of several train movements became possible.

Now, with ACI system installations scheduled for 1970, television may be relieved of some of the yard-check responsibility. As this use declines, however, others will be on the increase.

A number of new uses for closed-circuit television will be found, and existing ones will be expanded. All departments will be involved. Mechanical departments will use television for monitoring shop operations. Operating

Twenty ways to use closed circuit TV

- General freight yard surveillance.
- Inspection of freight cars approaching the hump in a retarder classification yard. Cameras can be mounted to view tops, sides and undersides of passing cars.
- Surveillance of piggyback terminal areas.
- Surveillance of freighthouse loading docks and platforms.
- Surveillance of passenger-station waiting rooms and station platforms.
- Surveillance of diesel and freight-car repair shops, diesel fueling and servicing areas, and locomotive ready tracks.
- Viewing of highway crossings and switching movements on the railroad for supervisory control of highway-grade-crossing-protection equipment.
- Display of train schedules in passenger stations.
- Surveillance of coin, token and money counting from fare boxes of transit authorities.
- Spot checks on yard and train operations for safety meetings, and checking on accident-prevention techniques.
- Viewing of barney pit and mule operations at coal docks so that loading operator may control barney mule and loading crane or dumping mechanism from one control point.
- Visual check of outbound trains from yard to see that loads on flat cars have not shifted, and that trailers, containers and automobiles are properly loaded.
- Monitoring of loading of open top cars with bulk materials, enabling the loading crane operator to operate from a safe distance.
- Viewing of indicators or submechanisms of a complex machine to provide operator with a complete view of his operations. For instance, lining mechanism of a track tamper is viewed by TV camera with picture placed in front of operator.
- Monitoring of operations where it is less convenient, or where it would be dangerous, for a man to make the observations. One example: With the DOT high-speed test train, a TV camera mounted on a car could monitor interaction of pantograph with the overhead catenary.
- Use of closed-circuit TV, with lease of telephone company facilities, to provide railroads with sales and training aids, particularly for off-line traffic offices. If railroad has microwave or wideband transmission capability it can use its own facilities. Simultaneous training could be given to on-line personnel at several locations.
- Monitoring of conveyor lines in wheel shop or air brake shop.
- Surveillance of parking lots at terminals or general office locations.
- To extend interlocking operator's view in busy switching territory.
- To view ship channel at drawbridge to permit remote control of bridge from a central location. TV installations for this purpose could provide remote control of several drawbridges from one control station.

departments will use TV for safety and training purposes. Traffic men will find TV useful as sales and training aids.

• **Yard surveillance.** Loudspeaker and radio communications provide a yardmaster with direct contact to yard crews. Tests have indicated, however, that TV cameras mounted on floodlight towers can provide a better picture of the yard than voice contact.

At Penn Central's 59th Street yard in Chicago, for example, TV cameras give the yardmaster a more complete view of the bowl end of the yard than he, using binoculars, can obtain from his office. As with other TV systems, the yardmaster has remote controls for pan-and-tilt, zoom lens and wide-angle viewing.

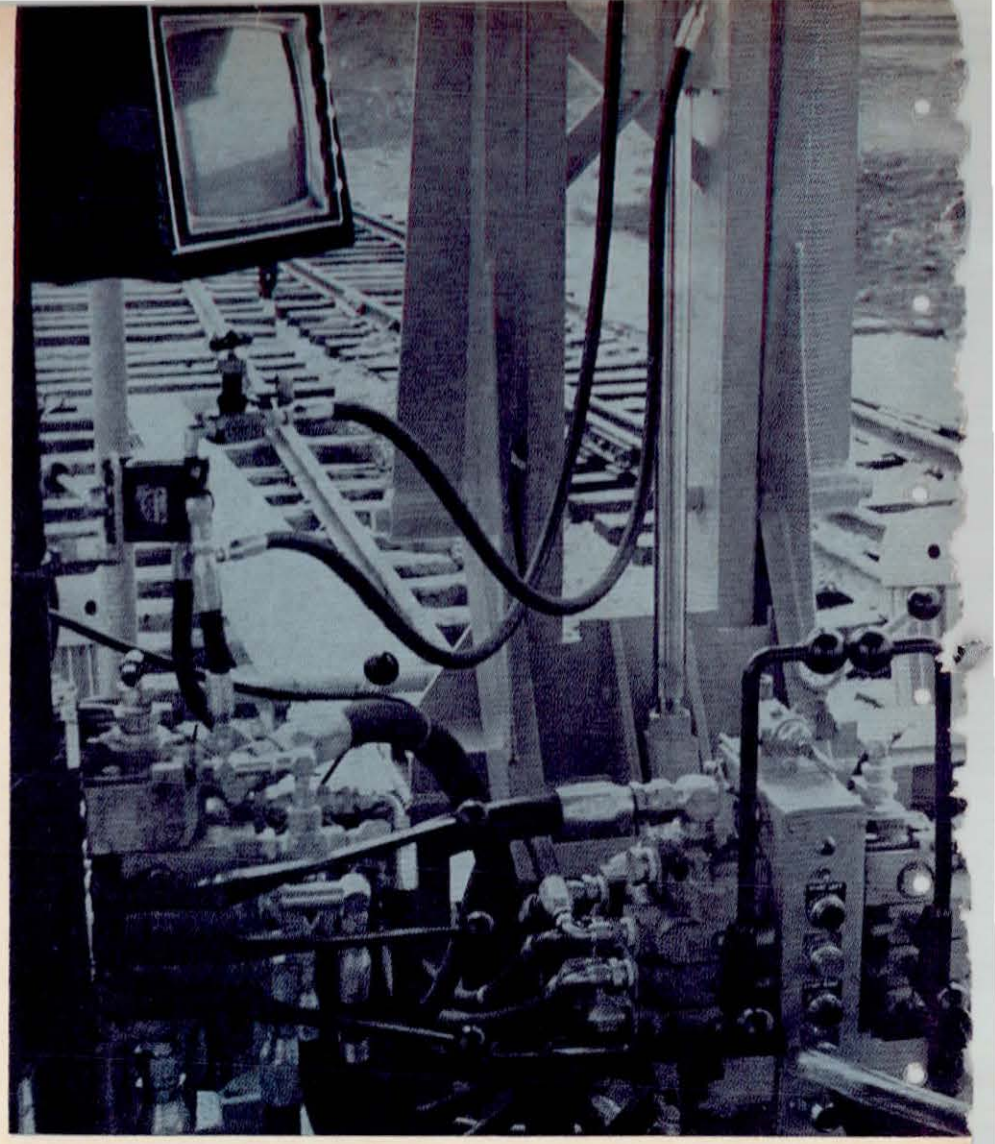
• **Car inspection at hump.** Many railroads have car inspectors stationed on the approach to the hump in a retarder classification yard. The inspectors view tops and sides of cars. From an inspection pit between the rails they are able to check the running gear and bottoms of passing cars. By proper arrangement of TV cameras and lighting an inspector in an office could make these checks. Video tape recorders could provide a permanent record of any defects found and serve as an aid in making repairs.

TV cameras placed to view outbound trains could be used to check upon proper loading of trailers and containers on flat cars. Or they could determine whether other loads such as poles, lumber or machinery on flat cars had shifted.

• **Diesel servicing.** More efficient handling of locomotives to and from servicing areas can be accomplished with TV, which can monitor fueling, sanding and washing areas. By remote control, a supervisor can pan and tilt the TV cameras. By use of the zoom lens, he is able to read locomotive numbers. Using two-way radio, he directs hostlers who carry portable radio sets.

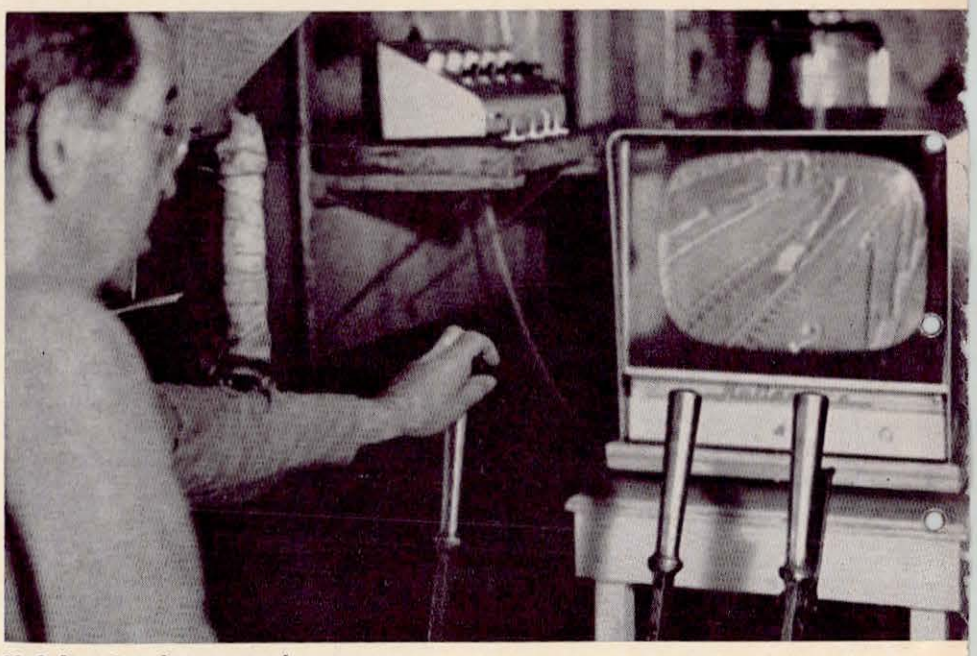
At its Harmon diesel and electric shop, Penn Central has eight TV cameras within the main shop area to observe the progress of repair work. The general foreman, in an elevated office has 14-in. monitors, as well as pan, tilt and zoom lens controls. Paging speakers and a dial telephone system provide communications between the general foreman and the men working in the shop.

• **Passenger platforms.** For better crowd control and for protection of passengers during late evening hours, rapid transit systems have made use of TV with cameras mounted to view platforms at track level. Illinois Central will soon install a test installation of TV cameras and two-way communications at its Homewood and Flossmoor, Ill., commuter stations for sur-



Guiding the tamper operator

This monitor (top left) in front of a tamper operator shows him how his machine is raising or lowering track, or making sidewise adjustments for lining.



Helping to dump coal

Closed-circuit television on the Central of New Jersey is used to guide the barney operator at the road's two Jersey City, N. J., Pier 18 coal dumpers.

veillance of platforms and gates used in its automatic fare-collection system. An operator at a central location will be able to see and communicate with any passenger requiring assistance. He will be able to unlock the gates to permit passengers to enter or leave, if necessary.

● **Display of train schedules.** Railroads will also be able to borrow from a much-used airline practice: One TV camera can be focused on one schedule board. The resulting picture can be flashed to many monitors around the terminal area.

Roads which have diesel locomotive dispatching or piggyback trailer control centers with large wall displays showing the status of units and their locations could provide cameras to view such displays and then transmit the picture to interested officers not in the same room—for example, the chief mechanical officer or the superintendent of transportation.

● **Surveillance of parking lots.** Many manufacturing companies provide TV surveillance of their own parking lots to prevent thefts of employees' cars. Such TV surveillance could be used for monitoring piggyback terminals. This would prevent theft of goods from trailers, and also provide proper entry-exit control of tractors and trailers.

● **Coal and ore dumping.** Reading and Jersey Central have used closed-circuit TV at coal docks. A camera is mounted to view the barney mule. The barney operator can see that the barney mule makes proper contact with the cars' couplers before he controls the barney to move them.

At an automobile plant, closed-circuit TV is used to assist an operator in loading railroad cars with scrap metal. The system has five cameras and four monitors. Two weatherproof cameras watch the unattended railroad cars. Two cameras watch the feed and discharge of scrap through the crushing process, and one camera watches the conveyor belt delivering scrap. Thus, the operator can see whether large or small pieces of scrap are being fed into the grinder. If pieces are unusually large, he may want to slow down the speed of delivery to the machine. The operator can see the performance of the machine and make adjustments. He can see when the railroad cars are full, so he doesn't overload them or spill scrap before moving onto the next car.

● **Switching moves.** Delaware & Hudson has used TV to provide a crossing watchman with views of switching moves made near an important highway crossing at which he has supervisory control of the flashing-light signals and automatic half gates. Similarly, several other railroads have used TV cameras to give interlocking operators close-up views of areas where switching moves are occurring.

Banks use TV cameras to monitor public areas for security reasons and some rapid transit operators have found closed-circuit TV to be helpful for similar reasons. D.C. Transit Co., in Washington, uses TV to monitor the counting of quarters, dimes, nickels and pennies as well as tokens and coupons—all totaling about $120,000 daily. Coins are separated, weighed, counted, packaged and stored automatically. Closed-circuit TV equipment (eight 19-in. monitors and cameras) is so watchful that the presence of a single coin remaining in the bottom of a large cannister can be seen without addition of special lighting. This TV monitoring around the counting room with one-way glass between the room and a person on the catwalk.

● **Tamper has TV.** One big advantage of a TV camera is its small size, which makes it handy to place in a position of watching an operation from a vantage point too confined, hazardous, or inconvenient for a man to be so located to view the same scene. Tamper, Inc. has recently developed a closed-circuit TV system to be used with its Junior Electromatic tamper. The camera is mounted in a position to view scale markings associated with the rail jacks and the tamper workheads. Thus, raising or lowering of either rail in the track, or sideways movement for lining is observed by the TV camera. Its picture is instantly fed to a monitor positioned in front of the tamper operator. Hence, he sees the result of his control of the tamper and jacking mechanisms.

For inspection purposes, the addition of a video tape recorder would provide a permanent record of track alignment and surface.

● **Training and sales aids.** Closed-circuit TV can be a powerful sales and training aid. For example, a railroad could hold a sales seminar for its men and eliminate the expense of bringing the entire sales force into the home office. Monitors could be placed in district sales offices or arrangements could be made with hotels or motels for collecting points on a regional basis. Sales officers could make their presentations from the home office. Two-way communications could be provided for questions from the field.

For safety training, TV cameras can be used, along with video tape recorders, to provide the "right" and "wrong" ways to carry out work assignments. Here again, with a CCTV network, safety training can be carried out at various locations simultaneously. The cost of such TV productions and usage can be offset by time saved in not requiring safety officers to travel over the entire railroad.

Several railroads are making use of one-half of CCTV, that is, the monitor, to provide visual, instant read-out from computers for car-tracing purposes. Also, management will find such displays advantageous in obtaining current reports on cars and the financial status of the railroad. ■

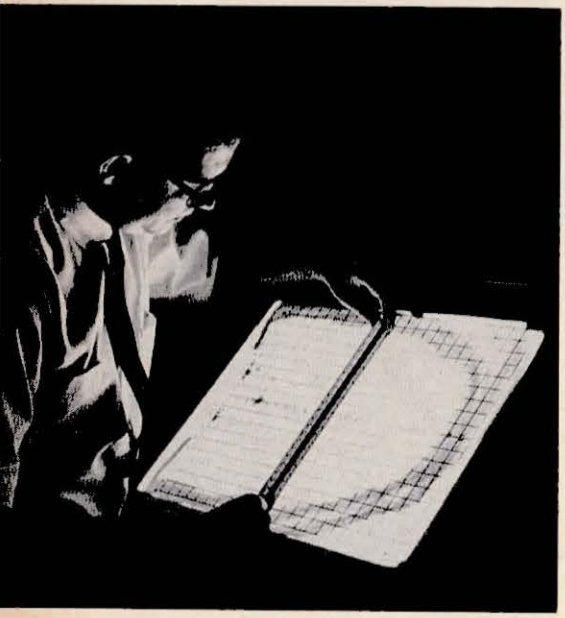
Closed circuit TV: A selective buyers guide

Ampex Corporation
Bendix Corporation
Conductron Corporation
General Electric Company
General Electrodynamics Corporation
General Precision Systems, Inc.
Granger Associates
International Telephone & Telegraph Corp.
Ling-Temco-Vought, Inc.
Maryland Telecommunications, Inc.
Mosler Safe Company
Motorola Communications & Electronics, Inc.
Philco-Ford Corporation
Radio Corporation of America
Raytheon Company
Sylvania Electric Products, Inc.
Telautograph Corporation
TPT Communications, Inc.

TV checks cars

With ACI installations coming along, TV may be eased out of one of its present jobs: yard checking of freight cars.

CAMERA PHOTOGRAPHS any object that impinges on a thin sheet of light. The light is produced ahead of the station wagon



PROCESSED FILMS are examined with the aid of special paper permitting clearances to be scaled directly.

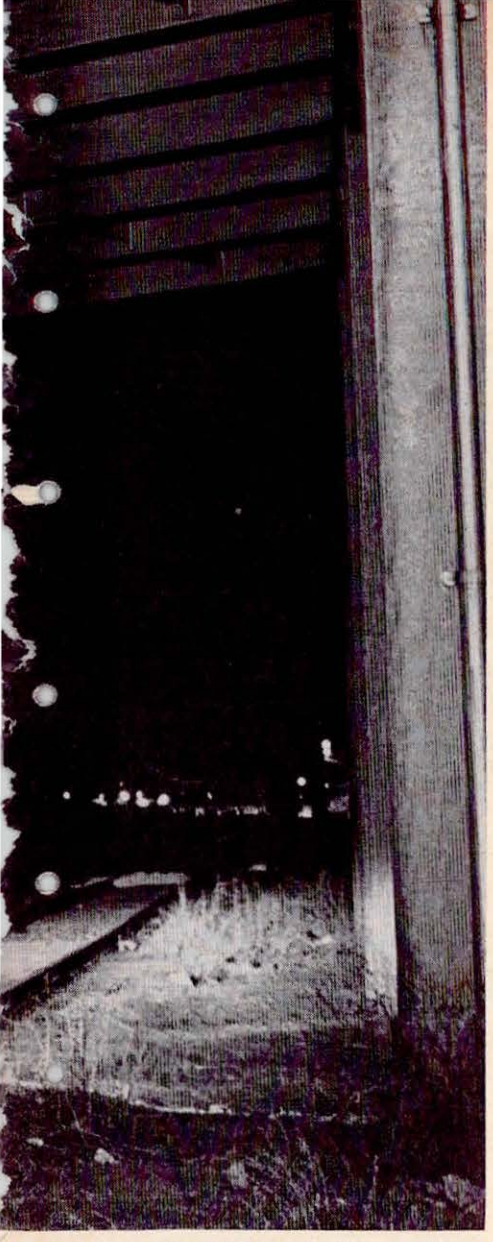
How Frisco checks its clearances with a new photo system

By MERWIN H. DICK,
Engineering Editor

With the advent of higher and wider loads on the railroads the matter of clearances has become more important than ever. For one thing the railroads need to know whether their existing clearance records are accurate, because only a small error might result in an oversize load being rejected or rerouted.

On the Frisco the question has been resolved satisfactorily by a newly introduced system for measuring clearances. Says Claude A. Peebles, assistant chief engineer, plans and structures: "This is a real easy way to get a lot of information about clearances. We now have positive proof that our clearance records, with minor changes, were accurate."

The Frisco's information is kept in the form of clearance diagrams. There



in a plane perpendicular to the track.

may be a single diagram for a particular structure, such as a through-truss bridge or an overpass, or there may be a composite diagram for a territory or subdivision.

● **Photographic technique.** As a means of checking the accuracy of its existing records the Frisco decided to take advantage of a system recently introduced that uses a photographic technique for recording clearance information. The system involves the use of what is known as the NCG Structural Clearance Car which is offered for use on a lease basis by the National Cylinder Gas Division of Chemetron, Inc. Exclusive world-wide rights to the system have been granted to NCG by its developer, Scope, Inc., Reston, Va.

An optical technique is used in which a thin sheet of light 23 feet high and 18 feet wide, is produced in a plane perpendicular to the tracks. Any obstruction that impinges on this sheet is recorded photographically. All necessary equipment is carried by a station wagon equipped with flanged wheels.

The camera, remotely controlled from the driver's seat, is mounted atop the station wagon on a tripod. A frame in front of the car carries the equipment for projecting the perpendicular sheet of light and also four lights which flash each time a picture is taken. These lights are for reference purposes when the photographs are being examined in the office. A high-capacity filmstrip projector and viewer are provided by NCG for the latter purpose.

● **Computerization set.** NCG spokesmen point out that data obtained from the photographs can be readily computerized. In fact, plans have been made for providing the computerized information in the form of punched cards or magnetic tape which railroads can use in programming clearance problems with their own computer facilities.

On the Frisco, the car was manned by a technician furnished by NCG, a Frisco employee qualified in the operation of on/off-track equipment and George Henry, the Frisco's senior structural engineer. Henry was included in the crew because of his close familiarity with steel structures throughout the system. In practice the NCG representative drives the car and also controls the camera.

● **Fast operation.** The system is operated only at night. "We figure that better than 100 miles of line was covered each night," said Peebles. "In a month's time the car was operated over the entire 5,000-mile system, except for certain branch lines. About 2,500 pictures were taken."

Peebles expained that two types of pictures are made. One is a single exposure of a particular obstruction such as an overhead bridge. For this purpose the car is brought to a standstill. The other is a time exposure made while the car is moving. In this technique the camera shutter is left open while the car traverses a particular structure such as a through-truss or girder bridge, a tunnel, or a narrow rock cut. This method produces a single "composite" picture which shows the minimum clearance presented anywhere in the structure.

Frequently both methods are used when recording the clearances in a single structure. The practice followed at through-truss bridges is an example. Here a single time exposure is made while the car is moving the entire length of the bridge. Time exposures are also made at each portal and a picture is taken at some intermediate point which is thought to present the closest obstruction.

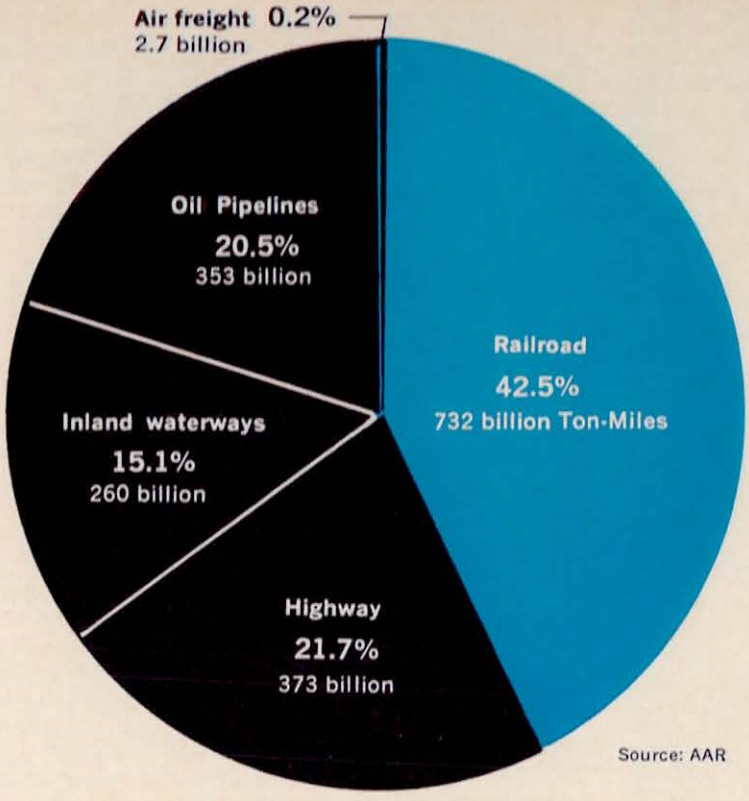
● **Examining the film.** Exposed film was sent to NCG headquarters in Chicago for processing. The negatives were returned to the road's headquarters at Springfield, Mo., for examination using the projector and viewer. When examining the negatives, use is made of special sheets of milar paper covered with a grid of lines drawn to a scale of ½ inch for 1 foot. Distances each way from the center line and above the top of rail are indicated at 1-ft intervals.

Spots on the film made by the four lights mounted ahead of the station wagon come into use when examining the negatives. When these spots are made to coincide with four corresponding marks on the milar paper the film is in the proper position to indicate the correct clearances on the paper. These clearances can then be scaled directly.

● **Advantages.** Peebles figures the NCG system has some advantages compared with making clearance measurements by hand. For one thing, he says, personnel making such measurements in the field may lean in the direction of conservatism with the result that the clearances may actually be greater than those shown by the records. The system also eliminates questions that may arise in connection with measuring the clearances presented by odd shapes such as gusset plates in bridges. "With this car," Peebles says, "you don't have to wonder where to measure from. The picture shows the exact location of the gusset plate."

As the negatives were examined any changes found to be required in the existing clearance records were made. Although these were not found to be of a radical nature it was discovered that some through-truss bridges actually afforded more clearance at the diagonal portal bracing than shown by the records. Hence, it was apparent that these structures could accept loads that were slightly wider at their extreme height above top of rail than had been previously allowed on them.

● **Looking to the future.** Will the Frisco want to run the clearance car over its lines again in the future? Peebles thinks it will, possibly in five years, maybe less. "We are always making changes," he said. "We are constantly working on our bridges and there is always a possibility that the track may get off the center line of the bridge. Also, with the construction of the highway system in this country new overpasses are constantly being placed over our tracks. We will want to keep close check on the clearances of these structures, as well as changes in clearances that may occur when our bridges are renewed or when changes are made in present overhead structures. We will want to have a record of these changes." ■



How will this pie be divided in 1980?

At Northwestern University recently, the experts posed some questions about the dozen years immediately ahead—and cautiously suggested some answers. The consensus: Nothing is constant except change.

Who will lead the race for transport profits in the 1980s? Will the current competitors—planes, trucks, trains and barges—hold the same positions they do now? Will the gap between some of them—for example, trucks and trains—be wider? Will some of these transport modes still be healthy enough to stay in the race.

These questions grabbed participants' minds during a recent three-day conference on financial prospects for transportation. The conference represented a blend of the academic and business worlds. It was held at the Transportation Center at Northwestern University, and it was attended by more than 100 transportation representatives and financial analysts.

● **1968: Rough for all.** Although the conference was mainly concerned with long-range profits, part of the schedule dealt with 1968. The consensus: 1968 will be a rough year for everybody, although it will be better than 1967.

In 1968, airline management looks for a 15% increase in domestic passenger traffic and a 30% increase in cargo traffic, according to George E. Keck, United Air Lines president. A total of 444 new airplanes will enter service this year on U. S. airlines, compared with 387 in 1967. But along with these figures come the hard facts of declining returns on investment—the lowest last year since 1963, Keck said. [United's rate of return in 1967, a spokesman said later, was 6.8%.] Because of rising costs, airport congestion and a slight over-capacity (from so many new aircraft), 1968 will see the airlines fighting to stop declining yields.

For truckers, the year will present a continuation of the battle to control terminal operating costs, to hold the line-haul cost per ton-mile, and to reverse last year's 5% drop in revenue ton-miles, truck company presidents said.

Railroads also have a drop in revenue ton-miles to reverse. It amounted to 2.5% last year, and contributed to a 33% drop in net earnings. However, the three rail presidents at the conference predicted a slight 1968 earnings rise based on a traffic increase and the expected increase in freight rates.

And waterways? The picture for this industry was the most gloomy. The task for 1968 will be to really start adapting to container operations—in the framework of a highly over-capitalized industry.

● **The long view.** Although the forecasts for 1968 generally contained similar degrees of severity for all the modes, those for the '80s held widely-different degrees of well being. They

showed planes and trucks operating with an enormous expansion of capacity to handle huge shares of the freight transport market. They showed rails and barges working to maintain an adequate share of the market—and especially they showed rails using capital freed from former plant investment to diversify into ventures on the outside.

The long-range possible-profit picture put together at the Transportation Center looked something like this: Planes, yes; trucks, probably; rails, strong maybe; barges, weak maybe.

• **Who is growing?** Forecasts for profits hinged on a question that formed an undercurrent for the entire conference—which modes are growth industries and which modes are not? That question got many answers both direct and indirect, ranging from the comment by George Keck that "the problems associated with rapid growth are the kind of problems I like to have," to this one by John W. Barriger, Katy president: "I do not feel that this is a growth industry." And it was the question of growth that entered strongly into discussions of capacity. Panelists saw air and truck lines faced with problems of under-capacity because of rapid growth in traffic volume. And they saw rail and water lines faced with problems of over-capacity because of lack of growth in traffic.

Put another way, the long-range situation is that trucks and planes will face problems of congestion—their terminals are too few and too small, rather than too many and too big, as with rails. And trucks and planes will face the need to speed up computer operations —they must move ahead from already-advanced systems rather than merely secure a footing in initial computer stages.

On two things, at least, there was agreement. First, all modes must obtain balanced government regulation that will allow rate-making to meet particular market needs. Second, the outlook for transport labor is generally good—there are not many crises on the horizon.

• **The academic view.** The race for transport profits will be run on the basis of ton-mile supply and ton-mile demand, according to Dr. Lewis Schneider, Harvard University assistant professor of business administration. First, he said, there is the problem of having too great a supply. This could be caused by the fact that rails and maritime already are over-capitalized and trucks and planes are moving quickly to expand their own capital condition. Second, there is the problem of competing effectively for whatever demand does exist. And here is where Schneider thinks railroads stand to lose. Schneider saw growing competitive pressure on railroads as the Interstate Highway System nears completion and jumbo cargo jets move off the drawing boards.

Growth in railroad rates will not equal growth in Gross National Product, but rails will continue to be exposed to pressure to keep rates down, Schneider said. Generally, motor carriers give better service and can more easily pass on rising costs to customers.

• **Rails must disinvest.** Schneider quickly added that the outlook for rails is not all bad. Although railroads face tougher chances of getting increased rates and they can look forward to smaller growth in traffic volume, it is still possible for rail companies to gain a healthy financial condition—if they take the right steps to meet the tightening supply-and-demand situation.

So what should be the strategy of railroad managers? Schneider said the most important management policy area facing railroads is the process of disinvestment. This process consists of mergers, abandonments and freeing capital funds for diversifying into other business endeavors outside of railroading. "Growth of railroad financial earnings per share can still be attractive," Schneider said.

Marketing vs Operating

Another element Schneider proposed for rails' gain of healthy profits is a change of management outlook so that rail executives become market-oriented rather than production-oriented. Rail managers will have to consider operations as part of shippers' over-all logistical structure including warehousing and inventory control as well as transportation—rather than consider the mere production of gross ton-miles per train-hour. Out of 74 Class I railroads, only 10 at the most do an adequate marketing job, he said. "The fight isn't between the marketing man and the shipper, it's between the marketing man and the operating people," he said. He added that the railroads making innovations in marketing are the same ones which show new attitudes toward securing management personnel from outside, especially from professional business schools, in addition to training from within.

Looking to the lineup of transport companies in 1985, Schneider saw 11 airlines reduced to six, 74 railroads down to 18, 100 truck lines down to 35, and 18 maritime companies down to six. However, he saw few intermodal transport companies.

• **The rail view.** There were echoes of Schneider from the panel of rail presidents. The strategy of railroad management holds elements of marketing practices, industrial development and mergers, said William J. Quinn, Burlington president. And in a contrary echo, Downing B. Jenks, Missouri Pacific president, called for a thorough, impartial study of the potential public benefit of common-owner transport companies.

Quinn concentrated on rail marketing strides. He said rails will "catch up fast" with other industries, to innovate marketing techniques rather than merely to follow. With the realization that they could be part of the manufacturer-to-consumer distribution flow, and even part of the actual production lines, railroads made startling market moves, Quinn said. These moves resulted in unit trains, multiple-car rates, incentive rates, auto-rack cars, TOFC/COFC, and "the development of resources once considered too far removed from market to justify their cost of transportation."

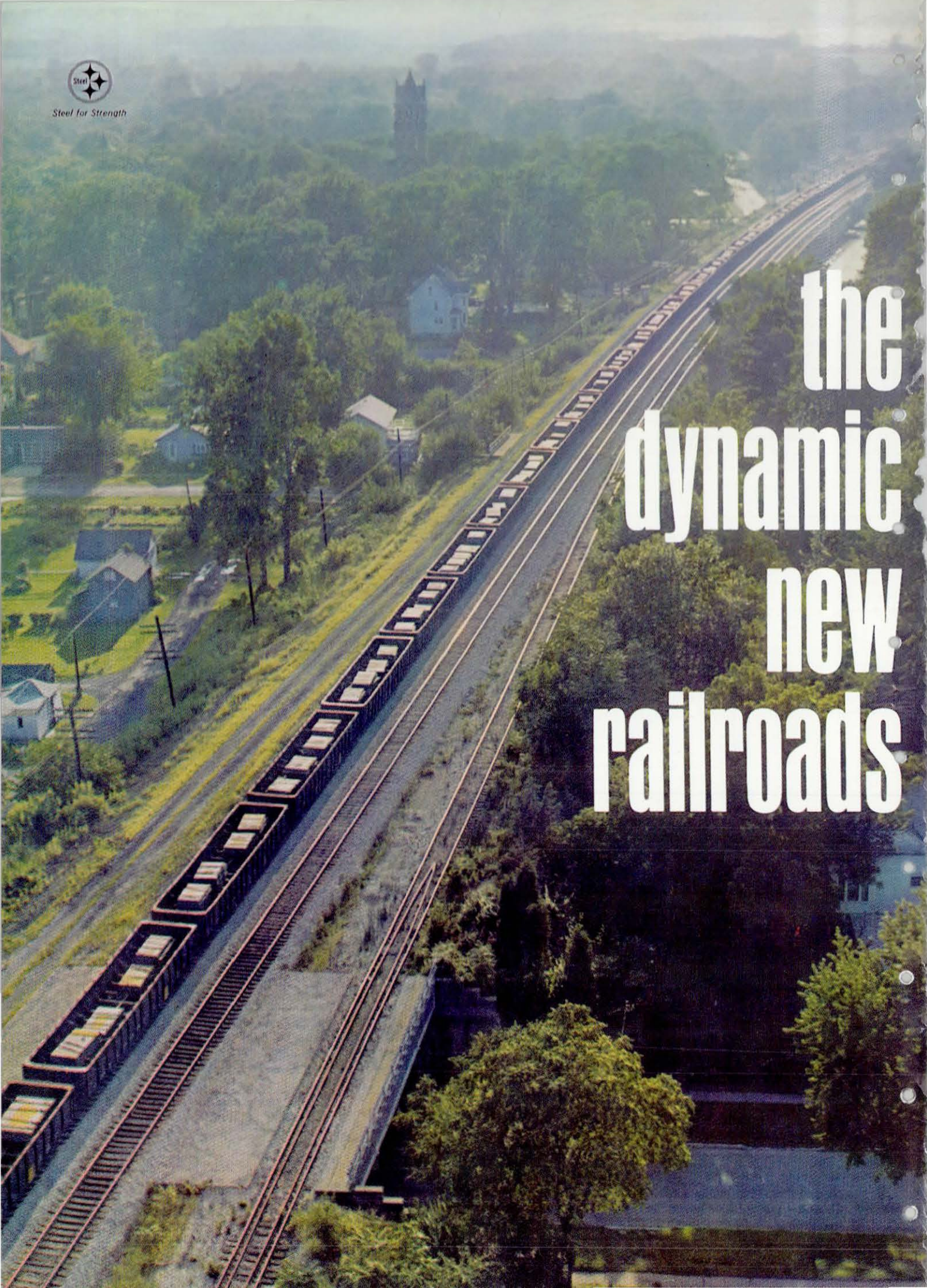
The Burlington president said he looks for expansion of the unit-train concept to cover fertilizer, chemicals, lumber, trailers, containers, garbage, and low-sulphur coal (to reduce air pollution). "In short, the low-cost characteristics of railroad freight transportation are destined to help solve some of the nation's more pressing problems."

Unit trains also may haul food. While the concept's application to processed foods may be far off, "reduced multi-car rates and rates based on heavy loading of jumbo-size cars will prove important in securing and retaining business as well as in helping to control distribution costs of food," Quinn said.

Marketing growth will run parallel to the growth of a major marketing target for the railroads—industrial development. Special services will have to be designed to serve what Quinn called a "new country" being built almost entirely along the railroads. As with marketing, he said, the railroads' former leisurely pace has changed so that now "the full resources of the railroads are directed at helping industry to find suitable locations."

Quinn also called for implementation of sound mergers "as quickly and prudently as possible." One of the factors of prudence, he said, must be evidence that the merged company will have great financial "staying power," less overhead cost per unit of transportation service. Mergers would stand in the public interest because they would affect freight rates. And rates are a component of the cost of living: "Quite possibly, if the railroads of the nation were already merged into the fewer systems that ultimately will come to be, this most recent request for a

(Continued on page 30)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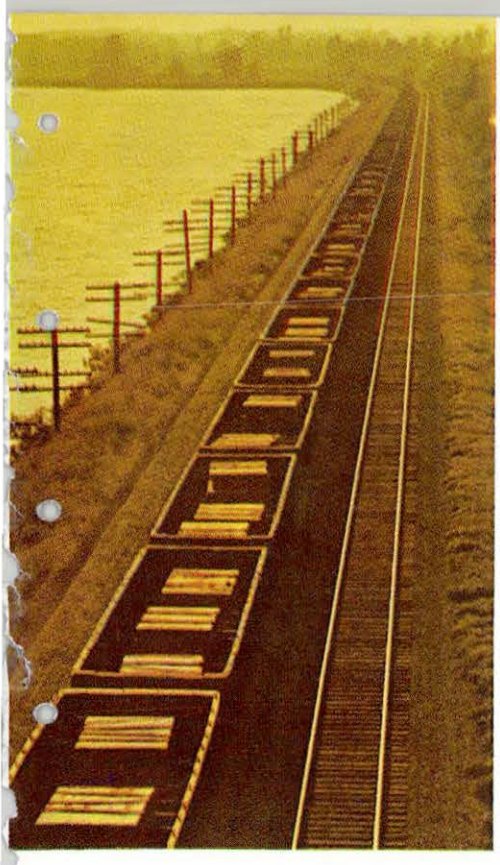

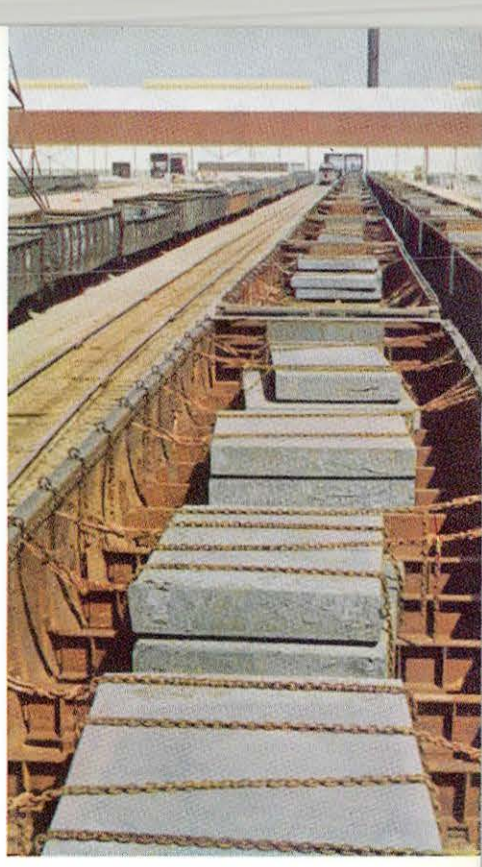

A railroad that became part of a 500-mile production line

A giant new steel plant at Burns Harbor, Indiana, requires steel slabs—lots of them—as raw material for its finishing mills. But the slabs have to be supplied by another plant 500 miles to the east. Because they're needed in a steady stream, the slabs have to be shipped hot—as hot as 800 degrees.

At the outset, several questions arose. Could these slabs be shipped by railroad, without damage to car trucks or brake equipment? Without endangering flammable wayside structures? Or adjacent passenger trains?

In tune with the spirit of the Dynamic New Railroads, the New York Central tackled the problems and came up with a ringing "yes". And now, every other day, a solid unit train of 80 to 100 cars feeds thousands of tons of hot steel slabs directly from the eastern plant into the rolling mills at Burns Harbor, Indiana—virtually making the railroad a part of a 500-mile production line.

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Railroad engineering —the view from DOT

FRA chief places some blunt questions before AREA group.

A. Scheffer Lang

Seated in the Red Lacquer Room of Chicago's Palmer House, members of the American Railway Engineering Association listened attentively while a speaker discussed their profession in frank—and frequently blunt—terms. Included were some searching statements about the quality of their work, their difficulties in keeping up with technological progress and their organization.

The speaker was A. Scheffer Lang, federal railroad administrator, U. S. Department of Transportation. Lang explained he was taking a look at railroad engineering from two points of view—a university and the government. For five years Lang was assistant professor of transportation engineering at Massachusetts Institute of Technology.

The view of railroad engineering which Lang got while at the university was one "which raised major questions in my mind about the professional vitality and technical quality of our work and, more than that, about the institutional setting in which railroad engineers operate." (When speaking of railroad engineering Lang is entitled to say "we" because in the late 40's and early 50's he served as a roadmaster and division engineer on the Denver & Rio Grande Western.)

• **Jack of all trades?** That the railroad civil engineer tries to be too many things in the face of a very diverse set of technical problems is, Lang feels, "perhaps the most important conclusion I reached in looking upon the railroad engineering scene from a university. . . He tries to be a locating engineer, a structural engineer, a metallurgist, and even a chemist—all at once. That he is often not genuinely expert in anything is hardly surprising."

Even so, Lang said he will not argue that the railroad civil engineers have been doing a bad job. "In comparison with other civil engineering practice, I suppose we come off pretty well."

Lang noted that his job in Washington has transportation research as its focus, including work on specific technical and government policy problems of railroad transportation. He said the thing that struck him immediately in this position was "the high degree of individual interest which railroad engineers display in their problems, contrasted to what might almost be called industry-wide apathy toward these same problems. To put it another way, there are many people interested in and capable of solving the technical problems of the railroads, but we always seem to have trouble mounting a multi-company attack on these problems."

Problems outrun resources

Noting that his recent experience in Washington has brought him into wide contact with the railroad industry and its problems Lang said he is concerned about the future viability of the railroads as part of our total transportation system. "Here again," he said, "I have been struck by the extent to which the problems in many areas seem to outrun our collective technical resources."

• **A "serious situation."** With his experience in the government and in actual railroad engineering in mind Lang said he cannot help asking himself "questions about whether we as railroad engineers are ourselves organized properly." He indicated that, in his opinion, the basic problem is the fact that railroad engineers are having difficulty keeping up with new technology and hiring those who can. As he sees it "this is the most serious possible situation any industry or profession can face."

Speaking of the causes of the problem Lang thinks that railroad engineers may be organized poorly within their individual companies. They "have almost certainly been organized wrong at an industry level, and perhaps are organized wrong as a profession as well." In support of this position he raised these questions: "Why do we hire only civil engineers into our engineering departments when the background of an industrial engineer is more appropriate to such a large share of the work? Why do we have so little research going on that can attract and stimulate the good, young technical minds? Why, indeed, do we continue to subsume under the heading of 'railroad engineering' areas of technical expertise which have long since come to be covered by more specialized and more capable professional groups."

• **On discussing AAR policy.** "It seems," he went on, "that when questions such as these have come up in past discussions most of those people involved have been concerned that somehow these were not really questions for discussion at all. In fact, I personally have been confronted many times with the argument that it was not our place to discuss 'AAR policy' or, alternatively, that you would never 'get the AAR to change its thinking'—or some such."

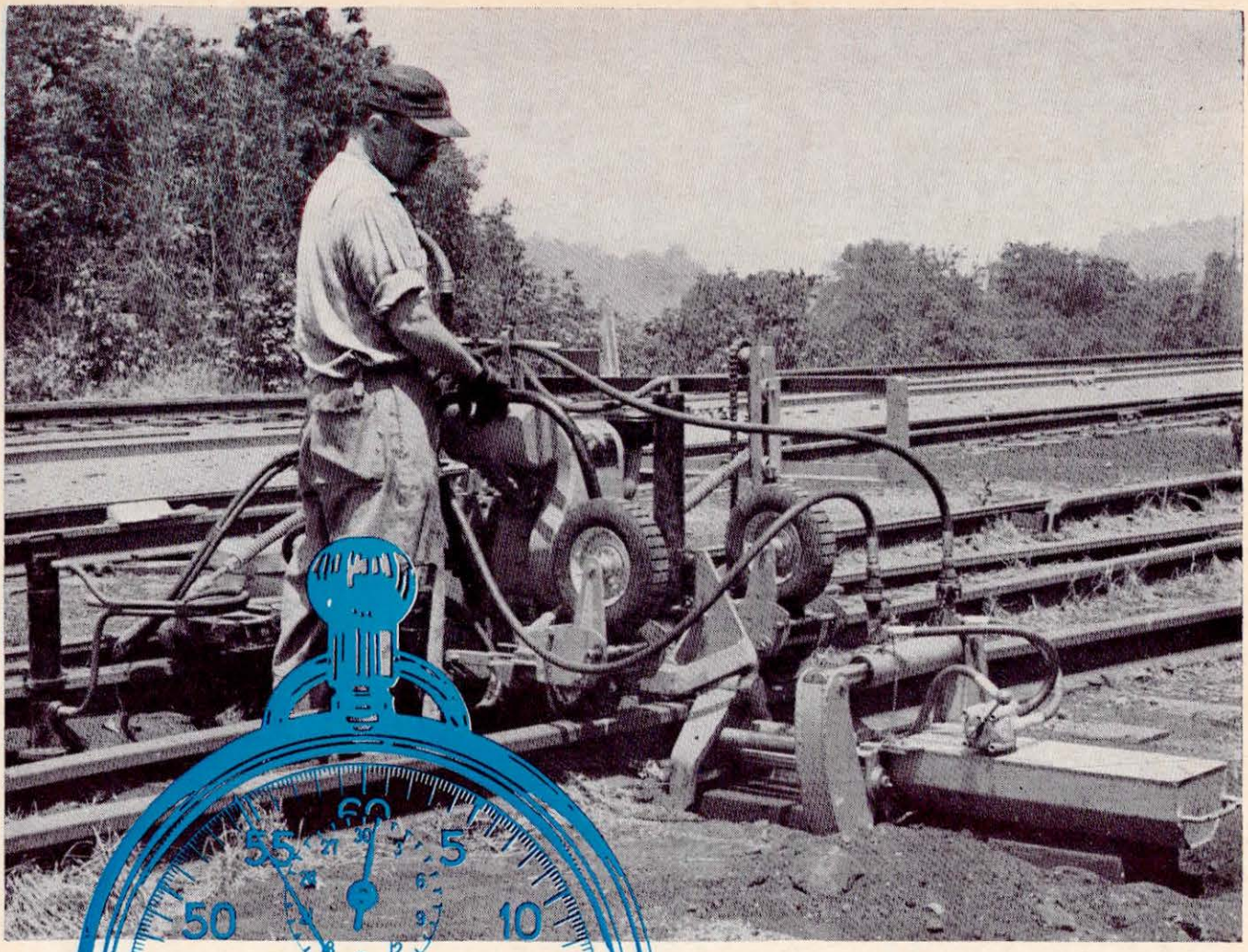
Lang feels that this is a line of thinking that should not be accepted by individual members of the AREA. He gave these reasons for taking this position:

"First, it seems that we as members often forget that on matters of railroad engineering we *are* the AAR. Second, and I think more importantly, we are professionals whose obligation goes beyond playing some passive role in the affairs of our clients. We are not supposed merely to wait until we are told what to do; we have a responsibility to tell others what can and what needs to be done.

"If we are not doing enough research to keep up with our technical problems, then we should not sit around until someone says, 'okay boys, now you can do some more research,' we ought to kick like hell! If we cannot get the right quality of men into our profession then we ought not to wait until someone *else* creates the environment needed to solve that problem, either."

• **An optimist.** Speaking of the future of the railroad industry as a whole Lang said he was an optimist. He sees the "beginnings of a new kind of transportation capability that, while it may look something like what we have known as railroads, will actually be vastly superior to anything we have today. And remember, I have spent a lot of time working on the problems of railroad competitors.

"I see, moreover, a steadily increasing disposition on the part of government to create and maintain an environment within which the present and future capabilities of rail transportation can be fully exploited for the benefit of all concerned." ■



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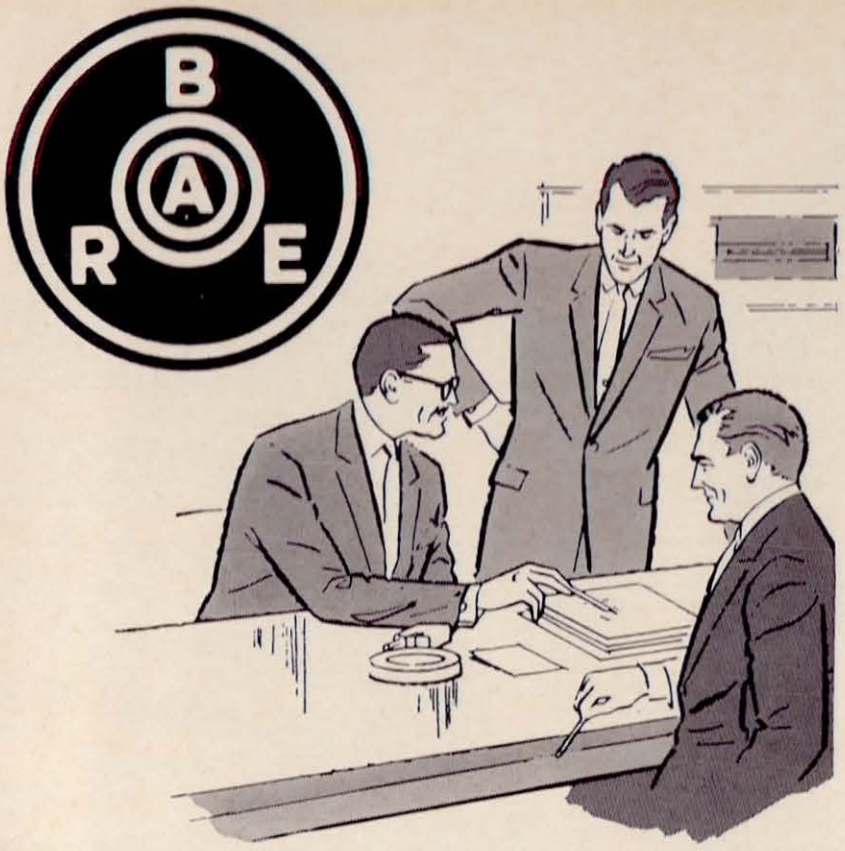

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How will this pie be divided?

(Continued from page 25)

rate increase would not be necessary."

● **Study intermodal companies.** Made by an influential and impartial agency, a study of the benefits to be gained from intermodal transport companies "could result in broad, public discussion of the service and cost advantages to carriers, shippers, regions and the general public," said Downing Jenks. Such a study would examine the competitive aspects of a transport company, safeguards to be considered, and the structure and operations of a corporate body capable of integrating transport modes.

Jenks said his proposed study would set the stage for meaningful policy discussions for the big decisions that appear inevitable in meeting U. S. transportation needs.

Who should make the study? Jenks suggested the Department of Transportation or the Transportation Association of America. The format, hopefully, would be similar to that of the 1961 Doyle Report, involving a series of task forces with clearly defined subjects.

"It comes down to this: Airplanes, trucks, barges and trains are not institutions in themselves to be protected inviolate forever. Rather, they are only 'tools' of the transportation trade. As in any other industry, if the public is to have top quality workmanship at the lowest possible cost, those who do transportation work must be free to use not just one . . . but all or any combination of the tools available," Jenks said.

He added that he thinks the "groundswell" for such a system already is under way—from the shippers rather than the carriers.

Citing shippers' polls and federal statements in support of his proposal, Jenks said, "I think the point need not be labored to discuss instances in which all forms of transportation at one time or another have not appeared to meet the public interest . . . or have not been sufficiently convincing that they were. Legislative or regulatory action has followed. And we all know how difficult it is to change that.

● **Rate hike will come.** Quinn, Jenks and Katy President John W. Barriger agreed that the industry's request for a 5% rate increase will be granted. "Railroad performance figures are such that a strong case will be made," said Quinn. Jenks said he sees "no great problem in justifying the increase." And Barriger said, "I believe the railroads will be

(Continued on page 34)

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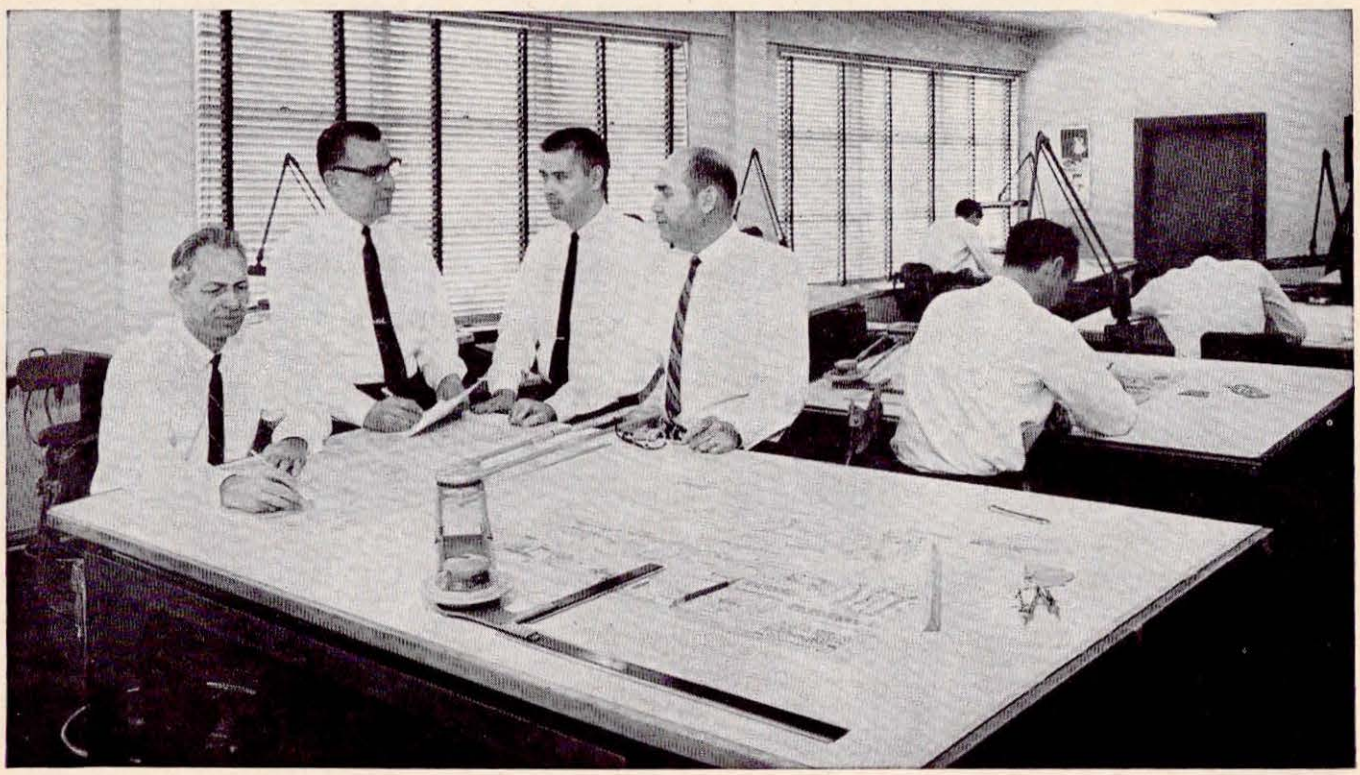
Key members of the Scullin Engineering Group include from left: George Wallace; Paul Gutmann, Jr., Vice-President Engineering; Claude Keathley and Paul Yaloures.



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(Continued from page 30)

able to make a prima facie case." Both Quinn and Jenks said 1968 will be "better" for their railroads than 1967.

● **Trucks face LTL profit squeeze.** For the truck lines, the challenge will lie in the profit squeeze on small shipments. Small shipments have become trucks' biggest traffic source. Business used to be volume-type, but now it is less-than-truckload, said William D. Baker, Cooper-Jarret, Inc., executive vice president. The small-shipment profit squeeze has been caused by (1) "a subtle change in distribution patterns" that reduced the need for warehousing by increasing the move-frequency of small shipments, (2) the vast geographical dispersion of business locations, and (3) the increasing value of shipments.

Baker said there's "not much left to automate" in truck operations after technological advances in pickup, delivery and docking. Consequently, efficiency is near a limit, and there is little more cost reduction to be gained in that area. At the same time, the industry can't "selectively sell away" from small shipments because that would contradict the trends of the nation's economy.

So what strategy is left for truck managers? Baker raised the industry's "complicated, outmoded, costly and bureaucratic" methods of pricing and paperwork as a target. He said price and paper techniques are out of date with the contemporary distribution process, and that the "maze of paperwork for one shipment is literally strangling motor-carrier efficiency."

Here are Baker's proposals for truck lines:

—Make all shipments prepaid, and develop a stamp plan.

—Start a released-value process, so that liability is limited to a set amount per hundred pounds and the remainder is covered by shippers' insurance.

—Simplify tariffs so that a weight-distance tariff will replace "reams and reams" of paper in the present tariff structure.

—Use a standard bill of lading, a freight-bill setup that eliminates billing process in terminals and billing errors.

—Introduce standard codes for commodity, shipper, origin and destination.

Such methods for pricing and invoicing "possibly could prevent a rate increase," Baker said.

● **Air-freight growth charted.** The steady growth of air freight, expansion of passenger capacity, and diversification into allied interests were topics of the air-line panelists.

A 20% annual growth rate in cargo volume would be the most desirable, and a 20% annual growth rate is just what the airlines will get, according to John C. Emery, chairman of Emery Air Freight Corp. "At that rate it is not difficult to keep the factors affecting earnings in fairly precise balance. A slower growth rate will not produce an appropriate earnings increase in the face of rising costs. A higher growth rate will multiply the risk that the balance in all departments will not be maintained," Emery said.

His outlook for air freight saw rising costs being offset by rising volume. He also saw problems of crowded terminals and a consequent rise of inefficient handling of cargo on the ground. But he said, "No other mode of transport is believed to have as good a chance as air transport to reduce costs, reduce volume rates, and increase revenue."

There is a "phenomenal" demand of shippers for freight service by air, Emery claimed. And this demand is drawing the interest of transport companies other than airlines: "The outlook for air cargo must be pretty good, because so many people are trying to get into the picture." One shipper currently making plans for the use of air freight is U.S. Steel, Emery said.

Emery raised capacity as the key to air-cargo volume, rather than pricing: "Expanded capacity in terms of weight and cube means that more cargo and more kinds of cargo can be lifted, and the market has repeatedly responded to this attraction alone." However, he called for a "conservative" price reduction, a slow reduction which would prevent volume build-up before air carriers could handle it. Emery said volume already is doubling every three or four years in many locations. A rate reduction for volume will come as carriers gain both air and ground capacity to handle large volume at lower cost. Already, he said, "A moderate growth rate can be generated by capacity alone."

On the passenger scene there is need for rate changes that follow market changes, said George Keck. He called for "enlightened regulatory action" based on two basic considerations: (1) Differences in market density influence the scale of operation and the achievable costs in specific markets, and (2) there are quality differences among markets. "It is apparent that the Civil Aeronautics Board tends to equate the public interest with the maintenance of low fare and rate levels," Keck said.

He proposed these changes in fares:

(Continued on page 36)

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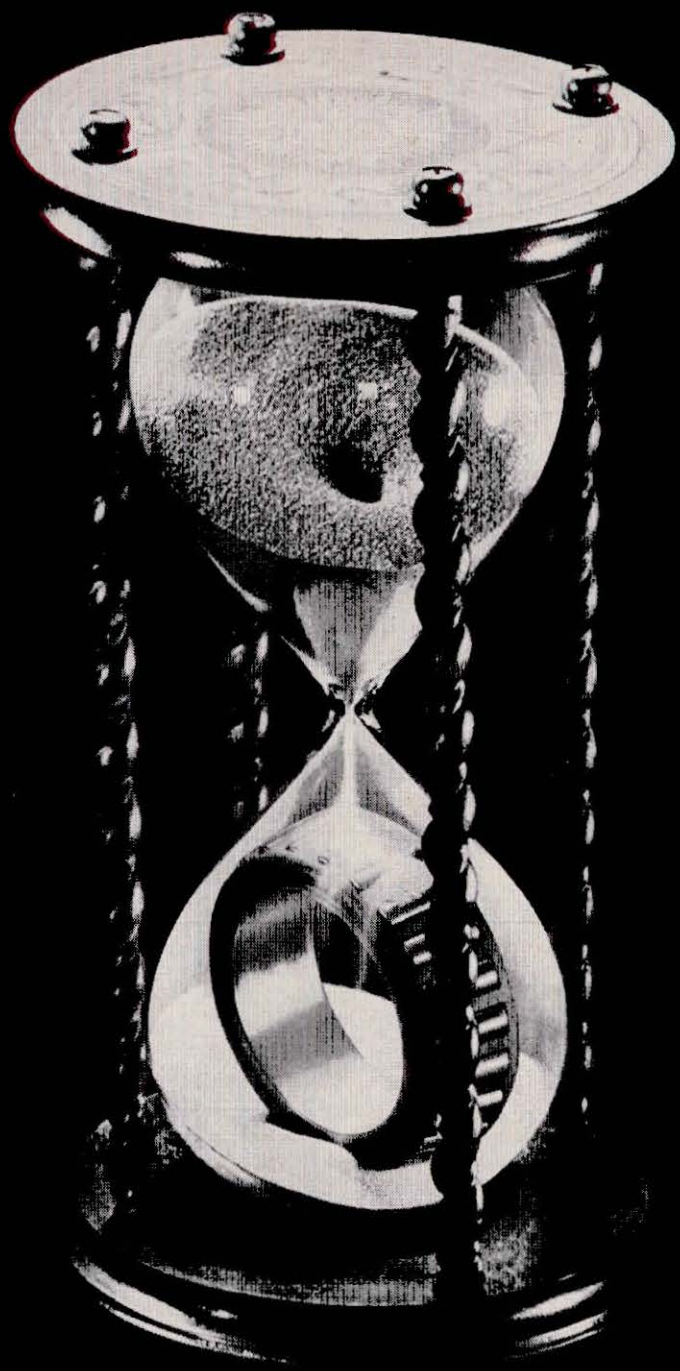

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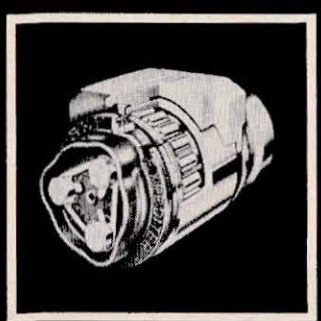

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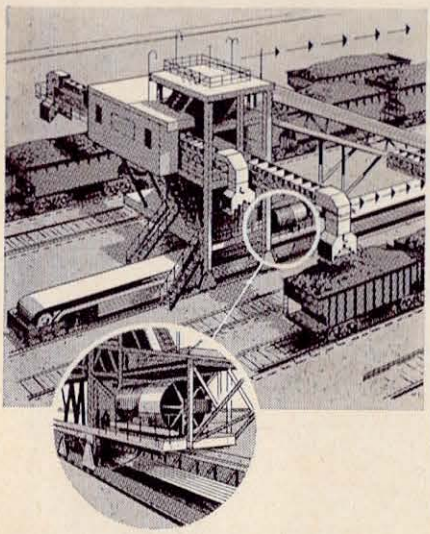

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(Continued from page 34)

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Flexible fare regulation is needed so airlines can meet the cost of erasing terminal congestion with advanced computer techniques. It is needed especially because airline unit costs "have apparently reached a plateau where further improvement is much less likely."

Another element of air management strategy was presented by Najeeb E. Halaby, Pan American World Airways senior vice president, who talked about diversification. After outlining Pan Am's successful moves into hotels, space-support facilities and business-jet production, Halaby said, "We ought to seek diversification in the rich, related fields that are accessible." Prospects for his company include food processing and distribution, import and export counselling, technical and management advisory work in fields related to air transport, and international merchandising and commodity sales.

• **Water carriers.** Inland waterways —with 15.1% of the current ton-mile package (including Great Lakes traffic) —were not represented by their own spokesman at the conference. Dr. Schneider, in reply to questions posed after the conference, commented: "I see nothing that makes the future unattractive for water carriers as long as they can continue to haul bulk commodities at relatively low cost, and as long as they are not required to repay the capital investment made by the federal government in waterway facilities."

He cited a Department of Transportation forecast which looks for a 156% increase in waterway traffic by 1975—a figure which he thought might be a little high. "But I would guess that the worst that could happen would be that waterways would continue to grow at a rate of 2% to 3%," said Schneider. He stressed the importance to waterways of continued federal investment: "I can't imagine a more favorable operating environment." ■

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AS THE EDITOR SEES IT

REMEMBER WELLS, FARGO? April 15, 1868, was a red-letter day in the stagecoach business. On that day, 30 vermilion-and-gold coaches —the biggest single order in Wells, Fargo's history —were loaded onto railroad flat cars in New England and started the trek westward to the Great Plains. We seize the 100th anniversary of this historic occasion to congratulate Wells, Fargo—on no longer being in the stagecoach business.

NOW THEY'RE BANKERS — The name of Wells, Fargo has not died. There's the Wells Fargo Bank in San Francisco—with 234 branches stretching from Oregon to California. The name also survives at the American Express Co.'s headquarters in New York; Wells, Fargo & Co. is an Amexco subsidiary which sold off its armored-car business last year and invested the proceeds in things like computers.

HOW IT COULD HAVE BEEN —We can't help wondering if Wells, Fargo stagecoaches might not still be rattling around the West if there had been, a century ago, Congressmen as preoccupied with their constituents' travel habits as some are today. Surely there were people, in those days, who feared the iron horse (which killed people at a fearsome rate) and who preferred the safer, if slower, stagecoach.

ENTER HECHLER—Come back with us now from the 19th century into the 20th—and to a recent Walter Cronkite (CBS-TV) news show which examined the plight of the stagecoach's successor: the passenger train. Summoned to appear as the voice of the people was U.S. Rep. Ken Hechler (D.-W.Va.).

PLACING THE BLAME—"I place the blame entirely on railroad management, which is determined to discourage passengers from riding the trains at all costs, partially on the Interstate Commerce Commission which is not aggressively protecting the public interest in keeping these trains on," said the Congressman. "The management of the railroads, with their high paid lawyers . . . are just going back to the Old Commodore Vanderbilt philosophy of the public be damned. They bring in this mumbo-jumbo statistics to try to prove that they're losing money and the Interstate Commerce Commission swallows it."

A REPLY—AAR President Tom Goodfellow had, we thought, a good reply to Mr. Hechler: "The railroads are only taking off the trains that are no longer patronized, and with a loss of almost half a billion dollars over the last ten years, you can hardly blame them for trying to save this loss." But Mr. Hechler does blame them.

AND A QUESTION —To Congressman Hechler, we respectfully submit the question: Did Wells, Fargo abandon its passengers—or did they simply prefer the train? —**Luther S. Miller**

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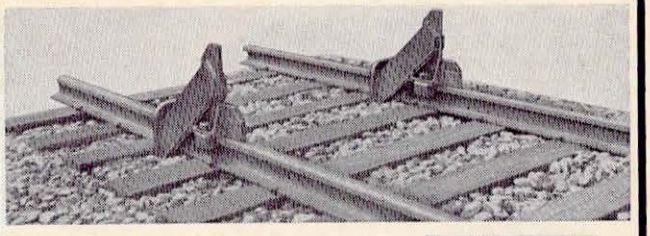
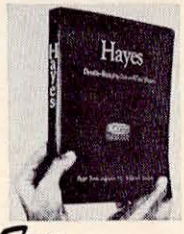


Wheels hitting a rigid Stop at a track-end can take a car off center; wheels are halted, but car body keeps going.

Hayes Cushion® Wheel Stops yield and absorb damaging shock in resilient ballast. Exclusive Hayes design adds friction braking as impact speed increases.

All-steel construction—universal fit—no holes to drill—tighten four nuts for installation. Five Hayes Types meet exact service requirements.



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Circle 16 on coupon page 38

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Railroad .....

Position .....

(RA 4/15)

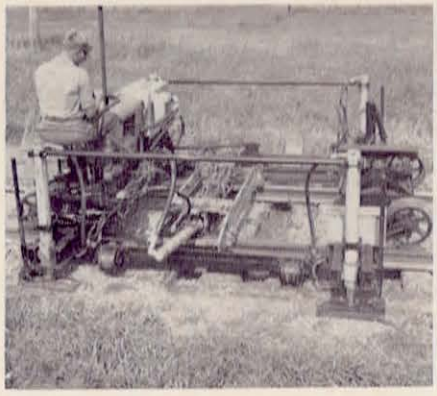
NEW PRODUCTS REPORT

Ballast doors (RA-1)

Ballast can be unloaded faster and in the quantities desired, it is said, by applying the Damy Ballast Doors to any existing hopper car. The manufacturer says Damy Doors save labor, ballast material and time. They permit distributing ballast exactly where it is needed. They increase or decrease the flow or stop it entirely at bridges and highway crossings, and restart the flow while the car is in motion.

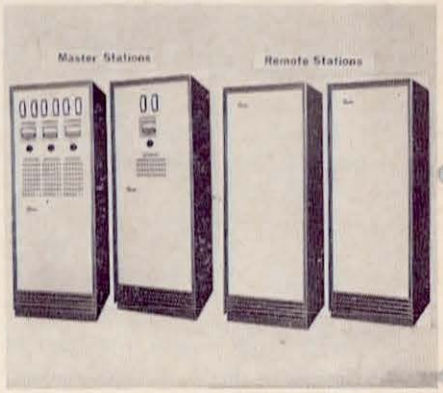
Damy Doors are applied four to a car pocket. Each door may be operated independently. Ballast may, therefore, be distributed on the inside of one rail and on the outside of the other, more on one side of the track than the other, or any 16 selections, which can be changed while the train is in motion. One man can control the complete distribution of ballast from a 70-ton hopper in three to five minutes.

Any hopper car that has been equipped with the Damy Doors can still be used in commercial service. *Morrison Railway Supply Co.*



Tie remover (RA-2)

The W115A Tie Remover is a unit that has a tie-removing ram mounted on a movable carriage. This permits removal of two adjacent ties with one machine spotting. Its main pump is of a variable-output type that enables high pressure-low volume output to be used for breaking a tie loose, and then low pressure-high volume for fast tie removal. Two jacks on each side raise the track just enough to free the tie. *Fairmont Railway Motors, Inc.*



Supervisory control (RA-3)

A medium density, solid state supervisory control system offers a means of controlling and supervising remotely located apparatus from a central location. The system is capable of both on/-off and incremental control of selected points, and is available in two standard forms: select/check-operate/check operation, and direct operation. The system is designed for continuous operation under industrial service conditions. *Quindar Electronics, Inc.*

NEW LITERATURE

TAPERED JOURNAL BEARINGS. A 4-page brochure summarizes the complete line of American Koyo Corporation tapered roller journal bearings for the railroad industry. Included is a brief description of the all new bearing line, and a dimensional chart showing the bearing size range. (NL-1)

PULPWOOD LOADING. A 20-in. by 26-in. 6-color poster is designed to promote better pulpwood rack car loading practices in the interest of public safety. The poster is a cooperative project sponsored by the American Pulpwood Association's Southwestern Technical Division. (NL-2)

TWO-WAY RADIO SYSTEMS. A brochure from Motorola Communications and Electronics, Inc., describes the firm's heavy-duty, medium-duty and desk-top base stations for remote two-way radio control. Color pictures show the equipment in action. (NL-3)

UNDERDRAIN MANUAL. A special underdrain manual (Bulletin 67029) giving practical information about recommended applications in railroad, highway and airport drainage has been prepared by the McGraw-Edison Fibre Products Division. (NL-4)

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30 Church Street, N.Y., N.Y. 10007 READERS' SERVICE (Att. George Johnson)
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NAME ..... TITLE.....
COMPANY .....
ADDRESS .....
CITY ..... STATE..... ZIP.....
● Inquiries can be processed only if title and company are shown. 4/15/68

W. R. Timken
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Paul Moon
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SUPPLY TRADE

W. R. Timken has been elected chairman of the board of directors, **Timken Roller Bearing Co.**, Canton, Ohio. He also continues as president. His election fills the vacancy caused by the death of **Henry H. Timken, Jr.**, on March 15.

Paul Moon has been appointed to the newly created position of director of sales and marketing, **Broderick & Bascom Rope Co.**, St. Louis, Mo. Mr. Moon had been Gulf Coast and oilfield sales manager at Houston, Tex. **D. P. Skaer,** district representative, Pittsburgh, replaces Mr. Moon at Houston. **John D. Altheide** has been named sales manager, Central District, and will also be responsible for handling advertising and sales promotion activities.

On March 29 the St. Louis office of **General Railway Signal Co.** moved to the Paul Brown Building, 818 Olive Street. **John M. Russell** continues in charge.

Don T. McKone, executive vice president, **Aeroquip Corp.,** has been elected president and chief operating officer. **Peter F. Hurst,** the company's founder, remains as chairman of the board and chief executive officer.

Frank Theobald has been appointed field service engineer, western and southwestern regions, **Servo Corp. of America,** at Denver, Colo., replacing **J. Stair,** transferred to Hicksville, N.Y.

Howard Garnitz has joined **Nationwide Industries, Inc.,** Chicago, as advertising manager. Mr. Garnitz previously was advertising director of Krim-Ko Bireley Division, National Sugar Refining Co.

J. F. Gruca has been appointed vice president—sales, North Central Region, Fruehauf Division, **Fruehauf Corp.,** Chicago.

Bruce M. Kirsten, group vice president in charge of purchasing and traffic, Detroit, has been appointed vice president and general manager, Fruehauf Division there.

Don W. Paul has been appointed west coast sales-service engineer, for **Freight-Master** and will establish area headquarters in San Francisco. Prior to joining Freight-Master, Mr. Paul was assistant superintendent, Car Department, **Soo Line.**

Bruce Wheltle has joined the staff of **Arthur D. Little, Inc.,** industrial research and management consulting company at Cambridge, Mass. He will be primarily concerned with ground transportation problems of clients. Mr. Wheltle was formerly a research assistant, **Southern Pacific.**

Ray C. Williams, chief engineer, **Standard Car Truck Co.,** Chicago, has been appointed vice president—engineering. **C. J. W. Clasen** has been named chief engineer. **Robert P. Geyer,** service manager, has been appointed assistant chief engineer. **Robert W. Gierlach,** assistant mechanical engineer, named assistant service manager. **B. H. Guerard,** assistant mechanical engineer, has been promoted to mechanical engineer. **John J. Enhorning,** draftsman, has been promoted to design draftsman.

David E. McCoy has been appointed a service engineer, **American SAB Co.,** Chicago.

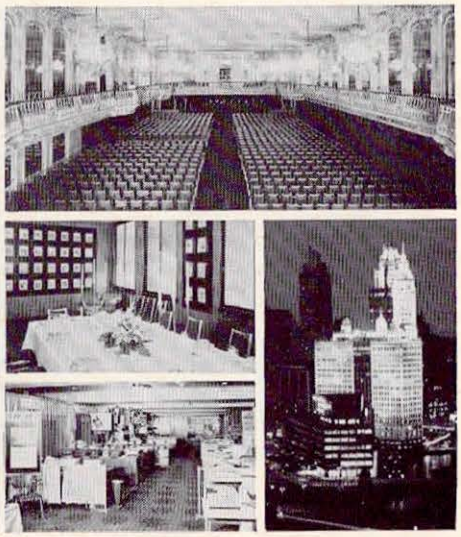
OBITUARY

Harry T. Harlow, Sr., 83, retired western general passenger agent, **Erie,** now **Erie Lackawanna,** died March 21 in the Peace Memorial Home, Evergreen Park, Ill.

Irvin H. Lance, who was general storekeeper, **Delaware, Lackawanna & Western** (now Erie Lackawanna) from 1918 until his retirement in 1948, died March 28 in St. Petersburg, Fla.

Clay Marsteller, 52, general solicitor, **Norfolk & Western,** Cleveland, died April 1 at his home in Hunting Valley, Ohio.

Robert L. Sommerville, 61, president, **Atlanta (Ga.) Transit System,** and a member of the board of directors, **American Transit Association,** died March 30 at his Roswell home outside Atlanta.



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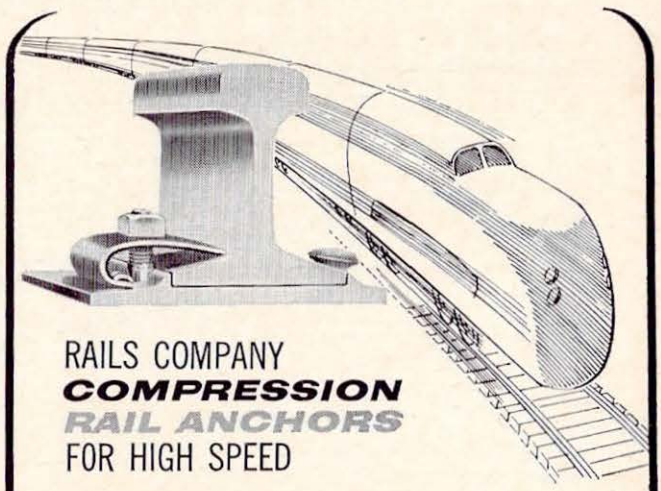

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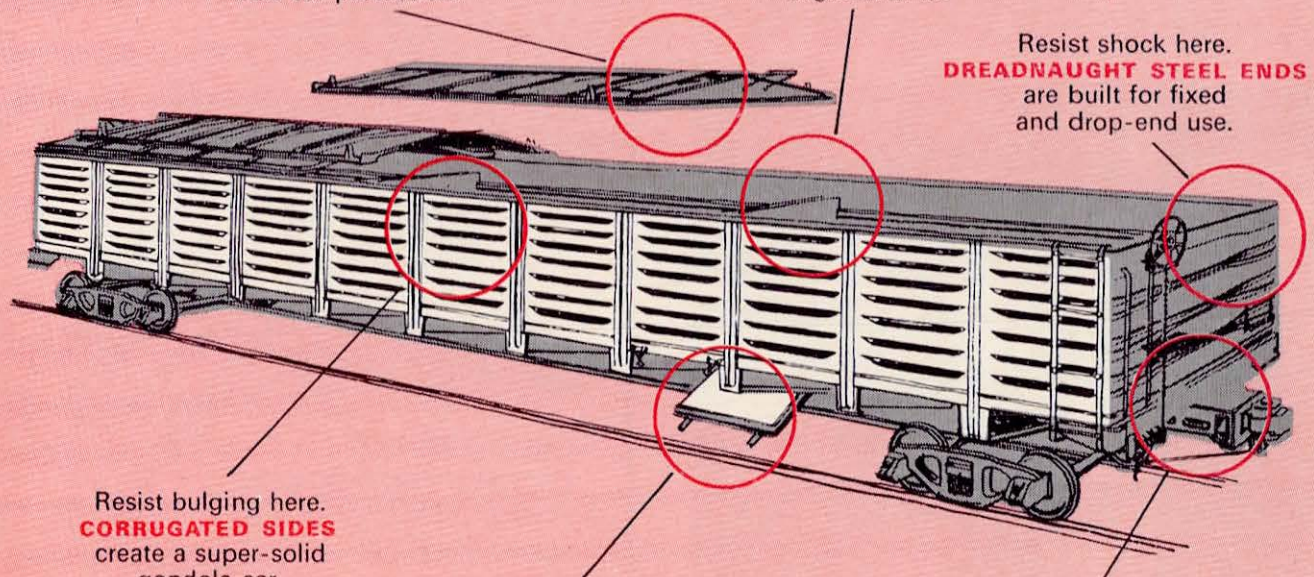

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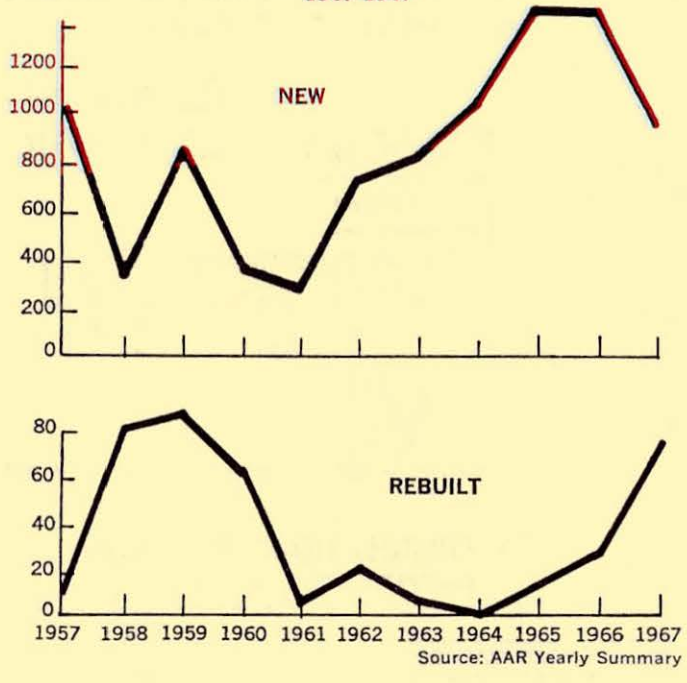
1957-1967

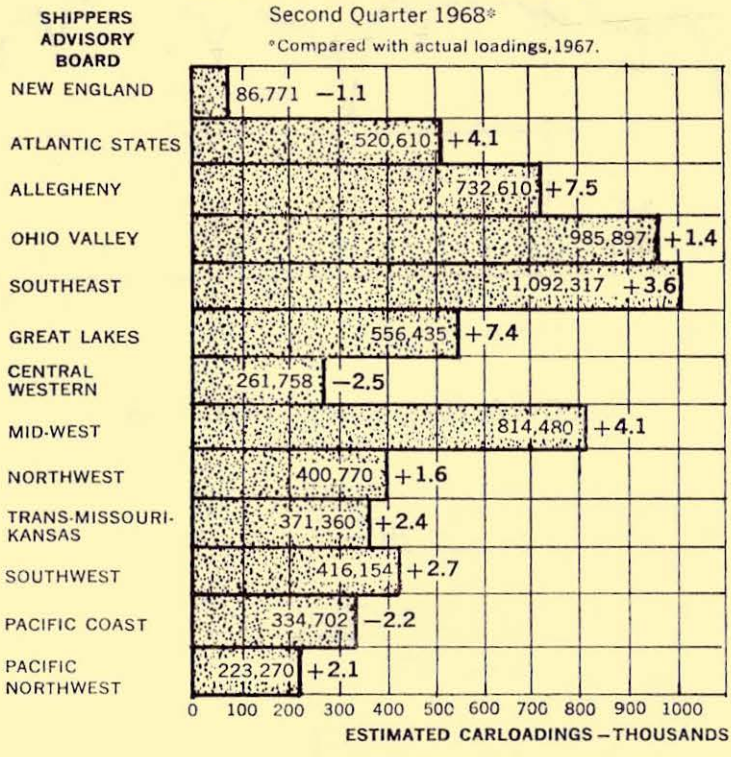


Source: AAR Yearly Summary

ESTIMATED CARLOADINGS

Second Quarter 1968*

*Compared with actual loadings, 1967.

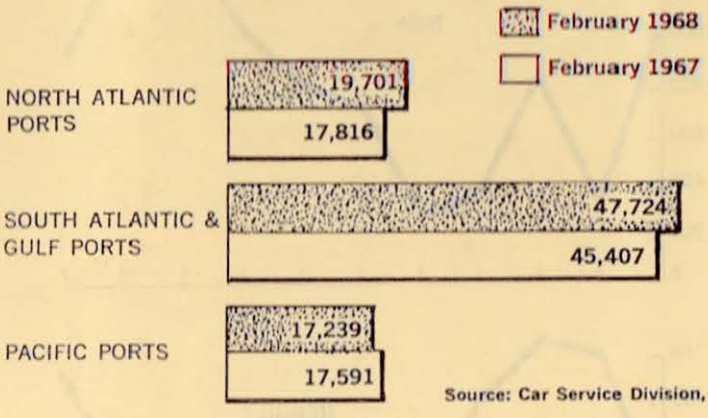


Current statistics

Carloadings, revenue freight	
13 wks., 1968	6,632,433
13 wks., 1967	6,763,359
New freight cars on order	
Mar. 1, 1968	24,742
Mar. 1, 1967	46,156
New freight cars delivered	
2 mos., 1968	10,467
2 mos., 1967	15,318
Serviceable cars	
Mar. 1, 1968	1,400,628
Mar. 1, 1967	1,420,684

EXPORT AND COASTAL CARLOADS UNLOADED

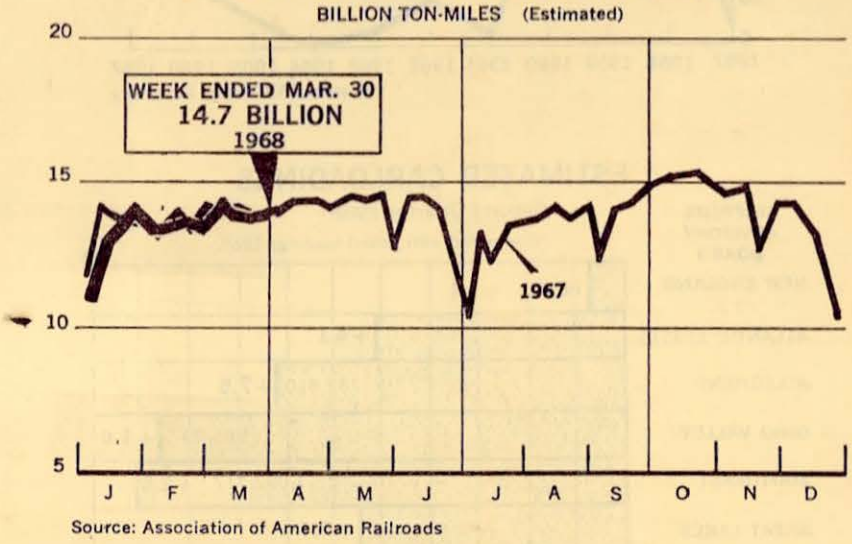
(Except Bulk Liquids, Coal, Coke & Ore)



Source: Car Service Division, AAR

RAIL FREIGHT TRAFFIC TRENDS

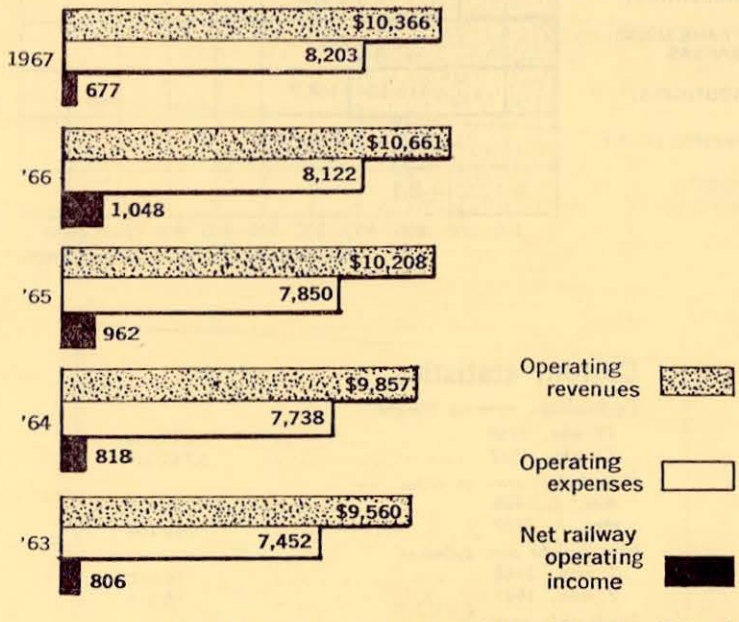
BILLION TON-MILES (Estimated)



Source: Association of American Railroads

SELECTED FINANCIAL STATISTICS*

(U.S. Class I railroads)



*Amounts in millions. Source: Association of American Railroads.

MARKET OUTLOOK

CARLOADINGS

Loadings of revenue freight for the week ended April 6 were not available as this issue went to press.

PIGGYBACK CARLOADINGS

U. S. piggyback loadings for the week ended March 30 totaled 26,154 cars, carrying 42,508 trailers, compared with 23,383 cars, carrying 39,064 trailers, in the corresponding 1967 week. Loadings for 1968 up to March 30 totaled 315,499 cars, carrying 515,915 trailers, compared with 290,562 cars, carrying 476,695 trailers, in the corresponding period of 1967.

LOADINGS FORECAST BY COMMODITIES

The Regional Shippers Advisory Boards anticipate a 3.2% increase in second-quarter carloadings, as compared with actual loadings in the corresponding 1967 period, and a 5.5% increase in revenue ton-miles. The forecast for each of the 39 commodity groups follows:

	Carloadings Estimated 1968	Estimated Percent Change
Grain, all	302,434	+2.5
Flour, meal & other mill products	254,692	+2.3
Hay, straw & alfalfa	2,532	+0.9
Cotton	28,704	—5.1
Cottonseed, soybean & veg't. oil, cake, meal & oils incl. margarine	48,276	—3.9
Citrus fruits	14,098	—28.6
Other fresh fruits	16,325	+4.1
Potatoes	48,576	+3.7
Other fresh vegetables	45,870	+1.9
Live stock	15,002	—2.7
Leather and leather products	1,663	—0.3
Poultry and dairy products	24,533	+1.9
Coal and coke	1,701,138	+2.6
Ore and concentrates	629,810	+2.5
Gravel, sand and stone	471,688	+6.9
Salt	30,422	+10.6
Lumber and forest products	535,837	+2.2
Furniture or fixtures	55,787	+3.5
Petroleum & petroleum products	162,746	—0.3
Sugar, syrup, molasses, confec. prod.	62,952	—0.8
Iron & steel, iron & steel products	437,062	+11.5
Metal scrap	130,721	+1.2
Other metals	52,254	—0.9
Mach. elec. mach. or equip.	132,379	+2.9
Cement & concrete products	105,971	+5.8
Brick & clay products	41,427	+3.7
Clay, ceramic or refractominerals	119,180	+0.5
Lime or lime plaster	20,867	+6.9
Gypsum products	32,653	+3.7
Agric. imple. & vehicles, other than automobiles & combat vehicles	24,432	—2.1
Automobiles & trucks	119,600	+13.0
Vehicle parts, incl. combat vehicles and parts	187,688	+8.0
Fertilizers	231,712	+2.1
Paper, paperbd., prep'd. roofing and waste paper	319,832	+1.2
Printed matter	4,036	—0.2
Chemicals & explosives	267,731	+1.4
Food prod. in cans & pack'g., fresh fish or other marine products	99,313	—2.5
Frozen foods, fruits & vegetables	9,499	—2.6
Tobacco and products	7,692	+1.4
Total	6,797,134	+3.2

PIGGYBACK

• *Trailer Train.*—Placed orders for an additional 827 cars as follows: from ACF, 56 89-ft all-purpose cars, 150 89-ft standard level cars; from Bethlehem, 110 89-ft standard-level cars, 56 89-ft flush deck cars; from Pullman-Standard, 81 89-ft all-purpose cars, 100 89-ft standard-level cars and 274 60-ft flat cars. Since Jan. 1, Trailer Train has placed orders for 1,837 cars. As of April 2, the TTX fleet included 44,490 cars in service or on order.

CAR OWNERSHIP

• *Serviceable cars decline.*—Revenue freight cars in serviceable condition owned by Class I railroads on March 1, 1968, totaled 1,400,628, compared with 1,420,684 on March 1, 1967, according to most recent AAR Car Service Division report. Estimated total ownership of all railroad- and privately-owned revenue freight cars on March 1 (see table below) was 1,816,418 (average capacity: 63.18 tons), compared with 1,827,254 (average capacity: 61.42 tons), on March 1, 1967.

ESTIMATED OWNERSHIP—ALL REVENUE FREIGHT CARS

(March 1, 1968 vs. March 1, 1967)

		Box	Covered Hopper	Gondola	Hopper	Flat	Refrig.	All Others	Total
Class I	1968	564,849	120,107	198,993	417,414	67,580	51,560	57,931	1,478,434
	1967	580,758	107,877	206,602	428,075	65,888	49,445	59,004	1,497,649
RRO&C Refrig.*	1968	0	0	0	0	0	50,763	0	50,763
	1967	0	0	0	0	0	53,492	0	53,492
Private	1968	1,469	28,100	292	2,828	40,936	14,901	172,129	260,655
	1967	1,877	24,366	1,084	1,543	35,512	15,413	169,471	249,266
Class II & S&T†	1968	9,298	893	5,277	8,668	649	687	1,094	26,566
	1967	9,072	788	5,561	9,003	755	441	1,227	26,847
GRAND TOTAL	**1968**	**575,616**	**149,100**	**204,562**	**428,910**	**109,165**	**117,911**	**231,154**	**1,816,418**
	1967	**591,707**	**133,031**	**213,247**	**438,621**	**102,155**	**118,791**	**229,702**	**1,827,254**

*Railroad owned and controlled refrigerator car lines.
†Class II railroads and switching and terminal companies.

• *March bad order ratio 0.2% higher than last year.*—Class I roads on March 1 owned 1,478,434 freight cars, 19,215 less than on March 1, 1967, according to AAR report summarized below. Bad order ratio was 0.2% higher than on March 1, 1967.

	March 1, 1968	March 1, 1967	Change
Car ownership	1,478,434	1,497,649	—19,215
Waiting repairs	77,806	76,965	+ 841
Repair ratio	5.3%	5.1%	+ 0.2%

LOCOMOTIVES

• *Locomotive ownership and condition.*—Class I roads owned or leased 27,317 diesel units on Jan. 1, a decrease of 199 units under Jan. 1, 1967, according to AAR yearly summary; steam locomotive ownership was reduced to 1.

	Owned or Leased Jan. 1		Stored Serviceable Jan. 1		Waiting Shops Jan. 1	
	1968	1967	1968	1967	1968	1967
Diesel (units)	27,317	27,516	267	148	1,825	1,603
Steam (locomotives)	1	3	1	1	..	..
Electric (units)	321	344	17	20	27	19
Gas Turbine-Electric	31	31	8	8	8	11

YOU OUGHT TO KNOW

General Doyle heads research panel for TAA

The Transportation Association of America last week announced the appointment of Maj. Gen. John P. Doyle (USAF, Ret.), as chairman of its Research Committee, succeeding Dr. E.G. Plowman. The committee's assigned task is "to help stimulate more research on national transportation policy issues" and to develop "a list of transport policy research 'gap' areas it feels should be given priority attention."

Procor named P-S lessor for Canada

Procor Limited of Oakville (south of Toronto), Can., has agreed with Pullman, Inc., to act as sole Canadian lessor and seller of Pullman-Standard freight cars. Leasing will be done through Pullman's Transport Leasing Division. Procor also has exclusive rights to build and lease cars designed by Pullman-Standard. "Procor now can offer either Canadian- or U. S.-built equipment on a lease or sale basis, for domestic or international service. Split leases also can be arranged between Canadian and U. S. customers to achieve improved equipment utilization," says Ken Jagger, Procor vice president.

Construction equipment show set for Chicago

CONEXPO '69—the Construction Equipment Exposition and Road Show—has been scheduled for Chicago's International Amphitheatre for Feb. 16-22, 1969. Some 80,000 buyers and suppliers from nearly 100 countries are expected to attend. The every-six-years annual show—described by its sponsors as the world's largest industrial exhibit—is being expanded in 1969 to include all phases of construction.

Southern acquires more I.D. property in South Carolina

Southern President W. Graham Claytor, Jr., announced last week that the railroad has purchased 230 acres of potential industrial property fronting on two highways (Interstate 85 and White Horse Road) at Greenville, S.C. The property, suitable for warehousing and light manufacturing, will be made available to industrial users in the near future. Claytor recalled that the Southern a few years ago bought 550 acres just south of the old Donaldson Air Force Base that is now being developed as an industrial park.

NP plans to begin building contested line

Northern Pacific has emerged as the winner in a contested action for permission to build a branch line into a potentially rich agricultural area in the state of Washington. The ICC, in giving NP the green light to build a 54.7-mile line to serve the Wahluke Slope area between Mesa and Mattawa, Wash., has ordered construction to begin within 90 days. NP President Louis W. Menk said the road now has more than 98% of the land needed to build the $6-million line and that the remaining property will be acquired as soon as possible. NP plans to build the line were opposed by the Milwaukee, which filed a petition to reopen hearings in the case. The ICC denied the Milwaukee action, and reaffirmed its earlier decision to let NP build. The contested area of 125,000 acres has great potential as an agricultural region to be irrigated by the Columbia Basin project.

On Maine Central, everything's up except profits

Unlike most railroads, the Maine Central posted increases last year in freight hauled (up 325,000 tons) and in gross revenue (up $1,013,597). But last week MC President E. S. Miller had to report that 1967 was "one of the most disappointing in the 105 years' history of the railroad." He told stockholders that net income fell by $687,016 because "enormous wage increases granted as a result of national bargaining and through a pattern set by compulsory federal arbitration ate up and destroyed all of our endeavors." The remedy, as seen by Miller and most other railroaders last week: "very substantial freight rate increases."

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VIEWPOINT

It's been a long, hard winter, but—

At the year's outset, we cautiously offered our own prediction for the first quarter: "Sunny, with showery periods." As it turned out, those showery periods seemed more like ice storms.

—On Jan. 1, the 13 Regional Shippers Advisory Boards were predicting an increase of 1.7% in first-quarter carloadings, and a 4% increase in ton-miles. Actually, carloadings dropped by nearly 2%; and (despite heavier loads and longer hauls per car) the ton-mile increase was barely 1/10th of 1%.

—Early in the year, railroad capital investments for 1968 were being estimated in the respectable (though hardly lavish) neighborhood of $1.5 billion. The current estimate is $1.27 billion.

—Passenger-train abandonments multiplied as the full effects of last year's mail-contract losses began to be felt. While most railroad men regarded these train-offs as a plus rather than a minus, the fact remained that they further darkened the railroad image in the eye of public opinion. And the advent of two trains that could help brighten this image—the Northeast Corridor high-speed expresses—was delayed by serious and unexpected technical difficulties.

—The wage-cost squeeze tightened. Even as the ICC was confirming its tentative approval of the 1967 railroad rate increase, the carriers had to go back for more. The crew-consist issue, meanwhile, touched off new labor strife and even a scattering of strikes.

—In Congress the railroads, far from advancing any of their "freedom" programs, actually lost ground as the Senate voted favorably on legislation that would permit the operation of trains-of-trailers on the Interstate Highway System.

All things considered, first quarter '68 was not one railroads would want to relive.

THERE ARE SIGNS OF A THAW

Whoever reads into the above the beginnings of an obituary is advised not to confuse a relapse with rigor mortis. For all of the short-range bad news that assailed the ear in this year's first three months, there was long-range good news that was all but lost in the din. We cite three items:

1. The inauguration by the Santa Fe of "Super C" service between Chicago and Los Angeles—an all-container/piggyback train running at better than passenger-train speeds.

2. The Illinois Central's fight to implement its radically innovative "Rent-a-Train" plan, allowing shippers to hire and operate whole trains on a year-round basis.

3. The merger, on Feb. 1, of the Pennsylvania and the New York Central into the Pennsylvania New York Central Transportation Co.

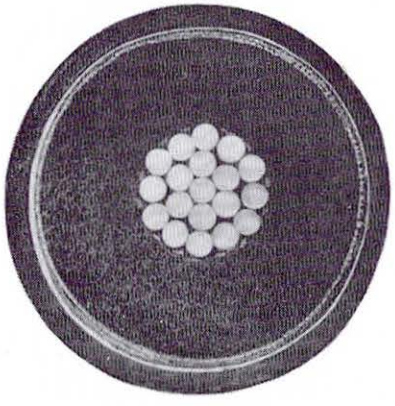
Here is where the future of railroads lies—in strong companies wholesaling their product in ways undreamed of by yesterday's marketing men.

We thoughtfully submit that "Super C," "Rent-a-Train" and the creation of Penn Central will be remembered long after first-quarter '68's carloadings have been forgotten.

on guard

This is an enlarged photograph of the end of a pencil. Graphite is ideal for writing (its name even means "to write"), but it is soft and needs protection. Hence the invention of the pencil. Because of man's propensity for making mistakes, no pencil is considered complete without an added invention—the eraser.

Below is a cross-section of a cable. Copper is an ideal carrier, but it needs protection. Hence the invention of Kerite. Nobody has ever made a mistake in specifying Kerite; it has been proved in service for 40, 50, even 60 years. A Kerite cable does not call for erasers. The Kerite Company, 30 Church St., New York, N. Y. 10007.



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